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# MOBILITY ENVIRONMENTAL RESEARCH STUDY

Report I

## A LITERATURE SURVEY OF ENVIRONMENTAL FACTORS IN THAILAND

by

J. D. Broughton

J. H. Shamburger

D. B. Del Mar



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## FOREWORD

This study constitutes a portion of the Mobility Environmental Research Study (MERS), sponsored by the Office, Secretary of Defense (OSD), Advanced Research Projects Agency (ARPA), Directorate of Remote Area Conflict, for which the U. S. Army Engineer Waterways Experiment Station (WES) is the prime contractor, and the U. S. Army Materiel Command (AMC) is the service agent. The broad mission of Project MERS is to develop a significant research effort to study physical environment, particularly as it affects the design and employment of materiel systems, with special emphasis being given to Southeast Asian environments. The funds employed for this study were allocated to WES through AMC under ARPA Order No. 400.

The report was written by Messrs. J. D. Broughton and J. H. Shamburger and Specialist Fourth Class (SP4) D. B. Del Mar. The references were reviewed and annotated by Messrs. Broughton, W. K. Dornbusch, and H. K. Woods, and SP4 Del Mar, all of the Geology Branch, Soils Division, WES. Special thanks are due to Messrs. G. L. Muck, Chief, Library Service Branch, Army Map Service; D. Dow, former Chief, Military Geology Branch, U. S. Geological Survey; A. C. Orvedal, Chief, World Soil Geography Unit, Soil Conservation Service; and personnel within their respective organizations for valuable assistance in locating references during this survey. Technical assistance in various phases of the work was provided by Messrs. A. A. Rula, Chief, MERS Branch, and W. E. Grabau, Chief, Area Evaluation Branch, Mobility and Environmental (M&E) Division, WES. All phases of the survey were under the direct supervision of Mr. W. B. Steinriede, Jr., Chief, Geology Branch, and the general supervision on Messrs. W. J. Turnbull and A. A. Maxwell, Chief and Assistant Chief, respectively, of the Soils Division, and Mr. W. G. Shockley, Chief, M&E Division, WES.

Directors of the WES during the conduct of this study and preparation of this report were Col. Alex G. Sutton, Jr., CE, and Col. John R. Oswalt, Jr., CE. Technical Director was Mr. J. B. Tiffany.



## CONTENTS

	<u>Page</u>
FOREWORD . . . . .	3
SUMMARY . . . . .	7
PART I: INTRODUCTION . . . . .	9
Background . . . . .	9
Purpose and Scope of Survey . . . . .	10
PART II: SOURCES AND TYPES OF REFERENCE DATA . . . . .	11
Sources of Reference Data . . . . .	11
Types of Reference Data . . . . .	11
PART III: METHOD OF PRESENTING AND EVALUATING REFERENCES . . . . .	14
Division of References by Subject . . . . .	14
Annotation of References . . . . .	15
Cross-Filing of References . . . . .	16
Geographic Index Maps . . . . .	16
Evaluation of References . . . . .	17
Identification of References . . . . .	17
PART IV: PRESENTATION OF REFERENCES . . . . .	19
Abbreviations of Source Libraries . . . . .	19
Definitions of Selected Thai Words . . . . .	19
General Section . . . . .	21
Surface Geometry Section . . . . .	101
Soils and Geology Section . . . . .	139
Vegetation Section . . . . .	201
Hydrologic Geometry Section . . . . .	237
Climate Section . . . . .	293
TABLE 1 . . . . .	313
PLATES 1-22 . . . . .	315-336

## SUMMARY

The survey reported herein was a search for maps, written text or description, and aerial photographs that would be useful in quantitatively describing the physical attributes of the environment found in Thailand that affect ground mobility. These physical attributes include surface geometry, soils, vegetation, hydrologic geometry, and climate. Sections corresponding to the physical attributes and a general section were established for filing and cross-filing references according to their data content. Each section was further subdivided into two subsections, text and map references.

A list of 1613 unclassified references was compiled, and the contents of each reference were evaluated according to the following categories: (a) quantitative data, (b) qualitative data, (c) useful data absent, (d) gazetteers, bibliographies, etc., and (e) not reviewed. Of these references, 1012 were reviewed and annotated, 484 were cross-filed, and 117 were not reviewed. Geographic index maps were prepared to show specific areas of Thailand described in the annotated references when these areas were less than the entire country. Each bibliographic entry is identified by a series of symbols indicating (a) section and reference number, (b) subsection (text, maps, or both), (c) evaluation category, and (d) if and where cross-filed.

## MOBILITY ENVIRONMENTAL RESEARCH STUDY

### A LITERATURE SURVEY OF ENVIRONMENTAL FACTORS IN THAILAND

#### PART I: INTRODUCTION

##### Background

1. The Mobility Environmental Research Study (MERS) was initiated as a two-phase study to encompass the Southeast (SE) Asian countries of Thailand, Laos, Vietnam, Cambodia, Malaya, and Burma. The first phase, which was conducted in Thailand during 1962, was a preliminary study to delineate the problems to be investigated in phase 2. Phase 2 of Project MERS is a long-term research program with an ultimate goal of providing the vehicle designer and ground mobility analyst with quantitative information concerning the effects of the various features of the physical environment on the movement of surface vehicles.

2. Whenever a study of this type is undertaken, all available assistance in the form of published and unpublished information pertaining to the specific field of interest is needed. The survey of literature on the environmental factors affecting ground mobility in Thailand was actually begun in July 1962 as part of the preliminary survey. At that time a limited search was made by contacting various agencies in Thailand to determine the availability and usefulness of data pertaining to the problem at hand. The results of this preliminary study were published in 1963.\*

3. Although it was somewhat dormant while the results of the preliminary survey were being assembled, the task of locating data on SE Asia was by no means terminated with the limited study conducted in Thailand. The search for published information was resumed in August 1963 with particular emphasis on locating material on Thailand. Initial efforts were directed to Thailand because of the possible application of the data in the planning and conduct of field surveys in that country. In August 1964, the scope of MERS was reduced to only one country, Thailand. Therefore, the search for literature on other SE Asian countries was terminated, although a list of over 4000 references had been assembled on Laos, Vietnam, Cambodia, Malaya, and Burma. This list of references is on file at the U. S. Army Engineer Waterways Experiment Station (WES).

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\* U. S. Army Engineer Waterways Experiment Station, CE, Environmental Factors Affecting Ground Mobility in Thailand, Preliminary Survey, by A. A. Rula and others, Technical Report No. 5-625, Appendix A (Vicksburg, Miss., May 1963).

### Purpose and Scope of Survey

4. The purpose of the literature survey was to locate, collect, analyze, and evaluate all maps, aerial photographs, and written text or descriptive material, published and unpublished, that would be of value in planning and conducting MERS. To be of value to MERS, these data had to aid in describing, in quantitative terms, the physical attributes (geometric configuration of the landscape, soils, physiognomic characteristics of vegetation, hydrologic and geometric characteristics of water bodies, and climate) of Thailand that would affect ground mobility.

5. Card files of the U. S. Department of Interior (USDI), U. S. Department of Agriculture (USDA), U. S. Army Corps of Engineers (CE), Defense Intelligence Agency (DIA), Library of Congress (LC), and Aeronautical Chart and Information Center (ACIC), U. S. Air Force, were used in compiling a list of references on Thailand. This report presents the sources and types of reference data located on Thailand, describes the method of presenting and evaluating the references, and lists the references subdivided according to subject matter.

## PART II: SOURCES AND TYPES OF REFERENCE DATA

### Sources of Reference Data

6. A literature search can be an almost endless task; however, because of the time frame established for MERS, the survey reported herein was restricted to the Government agencies within the Washington, D. C., area. The word "restricted" may be somewhat misleading in this instance, because past experience has shown that the sources utilized in this survey are probably the most complete in the United States for the type of data involved. Repetition of references in the files of the agencies surveyed was a minor problem that had to be dealt with.

7. The search for data on Thailand was initiated by examining the bibliographies of the Research Center Library at WES. The search was then extended primarily to the bibliographies and card files of the Military Geology Branch (MGB) of the U. S. Geological Survey (USGS), World Soil Geography Unit (WSGU) of the Soil Conservation Service (SCS), U. S. Army Map Service (AMS), Central Intelligence Agency (CIA), and DIA.

8. After all pertinent references had been extracted from the files of the above-mentioned Government offices, the card files of the LC, U. S. National Agriculture Library (NAL), USGS Library, and USDI Library were examined for any additional references. Shortly after this survey was initiated, the possibility of visiting foreign libraries was considered; however, for various reasons, this approach was abandoned.

### Types of Reference Data

#### Text

9. Most of the bibliographic material for the literature portion of this study was derived from the files of the MGB. This agency has compiled an extensive bibliography on SE Asia, and the data are categorized somewhat similarly to the environmental factors that affect ground mobility, but they cover a much wider range of subjects. The references obtained from the WSGU were predominantly soils publications; however, good references on vegetation were also available. The Documents Library at AMS provided a limited amount of data from the Engineer Intelligence Files (EIF). These files have since been transferred to the DIA. Approximately 80 percent of all material in the files of DIA is classified and was not utilized in this study. Most of the unclassified material that was reviewed was included in the files of other agencies.

#### Maps

10. Approximately 90 percent of all map references were obtained from AMS; nearly all the remaining 10 percent came from the CIA. The AMS map coverage is divided into three major classes, as follows:

- a. Stock items. Stock indexes, which cover all on-the-shelf topographic maps, are published annually, with periodic supplements.
- b. Ozalid indexes. These indexes include old or out-of-print topographic maps, of which photographic copies can be obtained upon request.
- c. IBM card index. This index includes, in addition to topographic maps, all other types, such as geologic, soils, and vegetation maps. A complete print-out of this index is referred to as a tab run, or machine listing. A tab run of all available maps covering Thailand was obtained.

### Aerial photographs

11. Aerial photograph coverage of Thailand was originally obtained from the files of ACIC, which at the time was the prime depository of negatives of aerial photographs exclusive of the U. S. and its territories. However, this responsibility was transferred to the Photographic Information Branch of DIA on 15 February 1964. Complete airphoto coverage of Thailand is available at intermixed scales of 1:20,000 to 1:40,000; also, except for a few small areas, complete photographic coverage is available at 1:60,000. Limited coverage at scales varying from 1:10,000 to 1:66,000 is also available. Some of this photographic coverage is classified.

12. It was originally intended to present the availability of photographic coverage of Thailand in graphic form in this report, but time necessary to include these data in sufficient detail and security classification imposed on the end product precluded this presentation. However, the indexing system used by DIA is discussed briefly in the following paragraphs.

13. The DIA detailed index system divides Thailand into 1-deg squares, using the nearest full degree of latitude and longitude in the lower left-hand corner as the control point. This latitude and longitude coordinate is the index number of a "binder" containing acetate overlays to a 1:250,000-scale map representing all aerial photography within the 1-deg square. An overlay has been prepared for each photography flight. Data on overlays include date of flight, altitude, focal length of camera lens, scale, security classification, time of exposure, quality, agency, and ground cover exposed in each photograph. In most instances, the mission and number identifying the film container are also shown.

14. Photographic coverage is also presented on small-scale maps of the country which are referred to as country photographic indexes (CPI). These CPI's should be used with reservation, because to obtain accurate coverage of an area of interest, the 1:250,000 overlays must be consulted.

15. Complete airphoto coverage of the Thailand primary and secondary study areas selected for Project MERS was obtained. A study area is defined as a tract of land selected for detailed ground reconnaissance. Fig. 1 shows the limits of the primary and secondary study areas.

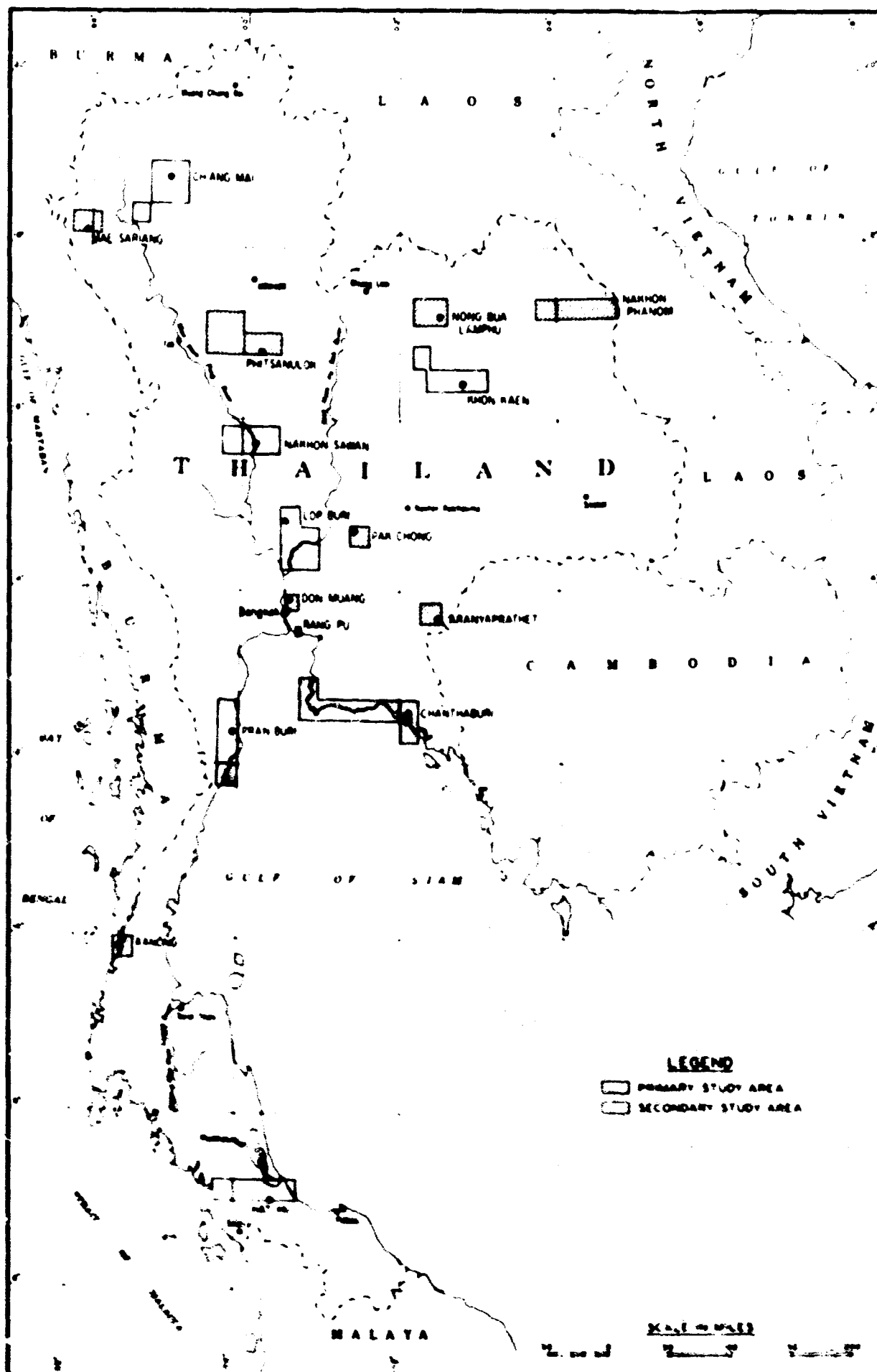


Fig. 1. MERS primary and secondary study areas in Thailand

### PART III: METHOD OF PRESENTING AND EVALUATING REFERENCES

#### Division of References by Subject

16. The presentation of bibliographic material in this report was designed to make it as easy as possible to locate material on a specific environmental factor; therefore, all bibliographic material has been divided into the following sections for presentation: (a) General, (b) Surface Geometry, (c) Soils and Geology, (d) Vegetation, (e) Hydrologic Geometry, and (f) Climate. To facilitate locating maps, each of these sections has been further divided into two subsections: text and maps. This division is not always clearly defined because in some instances maps are an integral part of a text. Where this occurs, the reference with annotation is placed in the text material subsection and cross-filed in the map subsection. Arrangement of the references in each subsection (text and maps) is alphabetical according to the author or agency compiling the material.

17. The following subparagraphs briefly summarize the material included in each of the sections.

- a. General. The General section was created shortly after the review of references was initiated. It includes references that were examined before it was found that they had very little, if any, application to the MERS project. If these articles could have been eliminated before they were reviewed, this section would not have been necessary. Unfortunately, many titles were deceiving and the usefulness of the references could not be determined until they were examined. References filed under General are of two types: type 1 references contain no information about environmental factors; type 2 references are composed largely of unusable information but contain a minor amount of data applicable to one or more of the other sections. Type 2 references are cross-filed and evaluated under the appropriate sections.
- b. Surface Geometry. Textual references pertaining to surface geometry are limited because very little detailed quantitative work has been done in this field. The available data are composed of the usual qualitative descriptions of terrain and landforms. The large number of map references included in Surface Geometry is due to the fact that all topographic maps, regardless of contour interval, are included.
- c. Soils and Geology. Soils and geological data were incorporated in one section because separation of these data would be difficult and in some cases arbitrary. The soils data are for the most part general in nature and usually are in pedological terms using the USDA textural classification



system. The geological material, of doubtful utility in many cases, may be applicable to areas where soils data are lacking or limited.

- d. Vegetation. Articles on vegetation are either very general or detailed, with little or no in-between material. They include either detailed information relating to species and occurrence or a broad general description of extensive areas. In most instances, references do not contain quantitative descriptions of stem diameter, height, spacing, etc., of vegetation stands; however, data concerning the diameter and height of particular species are sometimes included.
- e. Hydrologic Geometry. Slightly less than half the hydrologic geometry references are maps of irrigation projects. The textual material is dominated by Mekong Basin reports. Other references include discharge, velocity, and depth of streams crossed by the major highways. Information concerning profiles, soil types, and bank conditions of streams and rivers is consistently absent. Some reconnaissance reports list streambed material in very general terms. Records are available for approximately 540 gage stations, with stream depth, velocity, and amount and duration of overflow being recorded.
- f. Climate. Climatic data are available from approximately 80 weather stations located throughout Thailand. Detailed data concerning temperature, rainfall, relative humidity, etc., are available for 33 of these stations from 1946 to the present time.

#### Annotation of References

18. A total of 1012 references were reviewed and annotated. The review of the bibliographic material was accomplished primarily at the WES, with a minor portion performed in the libraries of the Government agencies visited. It was not possible to review all of the references because of (a) the reduction of the scope and time frame of the MERS project, (b) the loss of a particular document at the library where the request was made, or (c) the nonavailability of a document at the libraries in the Washington, D. C., area.

19. The annotations for text material vary from a single sentence to one or more brief paragraphs, depending on the content of the reference. If the material was short or not pertinent, the annotation was naturally brief. Conversely, the annotations lengthened proportionately with the content and usefulness of the reference. These annotations include specific coverage and date of information if these items are not obvious from the title. In some cases, the author's authority for or purpose in preparing the material

is included. Additional information included in each entry is the call number referenced to the agency by initial where known. For example, the initials AMS precede the call number of Army Map Service references. A list of abbreviations of source libraries is given at the beginning of Part IV. Whether these call numbers refer to the map or document library of the agency is indicated by /ML or /DL, respectively. Definitions of selected Thai words that appear in some of the reference titles or annotations are also given in Part IV.

20. The annotations for maps include, where possible, series number, reproduction process, projection, geographic coverage by latitude and longitude, legend information, and contour interval. Call numbers are also included where applicable.

### Cross-Filing of References

21. The contents of numerous references are pertinent to more than one of the established sections and/or subsections. In order that these types of references might appear in all sections or subsections where the data apply, a cross-filing system was used. Although many references appear in more than one section, the annotations appear only once--under the subject heading to which the majority of the data apply. To find the annotation of a cross-filed reference, a key (given in Part IV) directs the user to the proper section.

### Geographic Index Maps

22. Another tool designed to assist the user is a series of small-scale maps (plates 1-22) showing the geographic coverage of the annotated references that do not completely cover Thailand. Separate maps were prepared for text material and maps in all sections except the climatic section. The geographic area included in a reference is outlined, or is identified by a single line in the case of route reconnaissances. The number of references in a map is limited to the number of combinations of line patterns in three to four colors that can be utilized and still retain clarity. Common boundary lines, with the exception of cases of exact area coverage, are shown as a series of no more than three parallel lines, except along the Thailand boundary. Where two lines are parallel, the upper or right line is the correct boundary; where three lines are parallel, the middle line identifies the correct boundary. Coverage that extends beyond Thailand is terminated shortly after the Thai border is crossed or along the border.

23. A number within each outlined area or on a line for route reconnaissances refers to the reference identification number that appears in each bibliographic entry. Cross-filed references are replotted in the maps for each section.

### Evaluation of References

24. As previously stated, the purpose of this survey was to locate quantitative data that would assist in adequately describing the terrain in terms meaningful to cross-country mobility. Data to fulfill this requirement must be quantitative, specific, and in great detail. For example, the heights of small surface irregularities and the distance between tree stems are types of information required by the mobility analyst. At the beginning of the study, the participants were of the opinion that the desired type of information was almost nonexistent, and shortly after the review of references was initiated this opinion was verified. However, any quantitative information, even though not in detail, can be useful, and in some instances even qualitative information can be applied to specific problems. Accordingly, the references were evaluated on the basis of the following types of data content: (a) quantitative data, (b) qualitative data, (c) useful data absent, (d) gazetteers, bibliographies, etc., and (e) not available for review. A code number representing one of these categories was assigned to all entries in each section. Cross-filed references were evaluated in each section in which they appeared. For example, consider a reference that contains quantitative soils data and qualitative vegetation data. Because the majority of the information pertains to soils, the annotation appears under Soils and Geology and is cross-filed under Vegetation. For evaluation, this reference was coded under Soils and Geology as containing quantitative soils data and under Vegetation as containing qualitative information. The code number assigned to each evaluation category and the position of this information on the bibliographic entry is explained in the following section.

25. Table 1 is a numerical tabulation of bibliographic entries according to sections, subsections, and evaluation categories.

### Identification of References

26. In the system utilized in this bibliography, each entry is identified by four sets of symbols indicating the following: (a) section and numerical listing within each section, (b) subsection (text, maps, or both), (c) evaluation category, and (d) whether the entry is cross-filed, and if so, the section or sections in which the entry appears. A key to the reference identification system is given in Part IV.

27. In the first set of symbols a letter is followed by a number. The letter indicates the section in which the entry appears. Letters assigned for each section are: G for General, L for Surface Geometry, S for Soils and Geology, V for Vegetation, H for Hydrologic Geometry, and C for Climate. The number that follows the letter was assigned consecutively to each entry starting with 1 for the first text entry in each section and continuing through the last map listed. There is not a separate numbering system for the two subsections (text and maps) in each section.

28. The second set of symbols indicates whether the contents of the references are (a) text, indicated by 01; (b) text and maps, indicated by 02; or (c) maps, indicated by 03. As stated earlier, even though references are divided into text or maps, there are references that contain both text material and maps; this system permits identification of all three types of contents. Also, these identification numbers for bibliographic entries can be placed on punch cards for electronic sorting if desired.

29. The third set of symbols indicates the evaluation of the references for pertinency to Project MERS as follows: (a) 01, quantitative data; (b) 02, qualitative data; (c) 03, useful data absent; (d) 04, gazetteers, bibliographies, etc.; and (e) 05, not reviewed.

30. The fourth set of symbols indicates the cross-filed status of a reference. The first symbol is always an X and the following letter or letters indicate the section or sections in which the reference is cross-filed. The same symbols used to designate the sections in the first group of symbols are applied here (i.e. G for General, L for Surface Geometry, etc.). If a reference is not cross-filed, the X is followed by 0. For unannotated bibliographic entries, the letter following the X indicates the section where the annotation can be found. If the unannotated entries are cross-filed under more than one section, the first letter designates the section in which the annotation appears. Otherwise, the sequence of section designations for references cross-filed more than once has no significance. References may also be cross-filed within a section from one subsection (text) to the other subsection (maps). As previously mentioned, this type of cross-filing is restricted to references that contain both text and maps concerning the same subject section, and the reference (with annotations) is filed under the text subsection and cross-filed under the map subsection. In the map subsection, the entry following "SEE" tells under what author(s) the annotation can be found in the text or map subsection.

## PART IV: PRESENTATION OF REFERENCES

31. The following tabulations define the abbreviations of source libraries and certain Thai words used in the references. The key to the reference identification system is outlined in fig. 2.

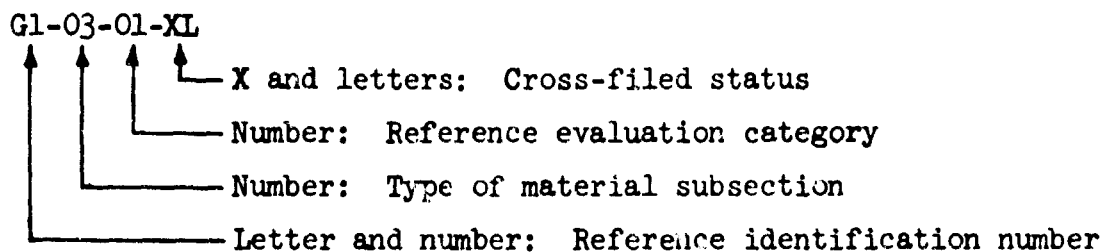
### Abbreviations of Source Libraries

ACIC	Aeronautical Chart and Information Center	MGB	Military Geology Branch, U. S. Geological Survey
AMS	U. S. Army Map Service	ML	Map library within an agency
CIA	Central Intelligence Agency	SCS	Soil Conservation Service, U. S. Department of Agriculture
DIA	Defense Intelligence Agency	USBR	U. S. Bureau of Reclamation
DL	Documents library within an agency	USDA	U. S. Department of Agriculture
EIF	Engineer Intelligence File	USDI	U. S. Department of Interior
GPRR	Government Publications Reading Room, Library of Congress	USDS	U. S. Department of State
IMF	International Monetary Fund	USGS	U. S. Geological Survey
LC	Library of Congress	USWB	U. S. Weather Bureau
LCO	Library of Congress, Orientalia	WES	U. S. Army Engineer Waterways Experiment Station

### Definitions of Selected Thai Words

Amphoe	district	Lam	stream, canal, channel, section of a stream
Ao	gulf	Mae Nam	main channel of stream, estuary, river
Ban	village	Muang Nam	stream channel
Bang	settlement area	Nam	stream, water
Buket	hill, mountain	Pak Nam	stream mouth, bay
Changwat	province	Phanom	mountain, hill, mountain range
Doi	mountain	Phu	mountain
Dong	dense jungle	Sa	pond
Hat	beach	Samut	sea
Huai	stream, channel, section of a stream	Saphan	bridge
Khao	hill, mountain(s), peak	Sathani	railroad station
Khlong	stream, canal, section of a stream, channel, estuary	Satung	stream
Kho	point	Talo	bay
Khok	mountain, hill	Tha	ford or landing place
Ko	island(s), reef, rock	Thale	lagoon, lake
		Thanon	road
		Wat	monastery

Example:



#### Reference identification letter and number

Letter identifies the section, as follows:

G = General	V = Vegetation
L = Surface Geometry	H = Hydrologic Geometry
S = Soils and Geology	C = Climate

Number following the letter indicates the order of the reference within a section.

#### Type of material subsection

- 01 = Text
- 02 = Text and Maps
- 03 = Maps

#### Reference evaluation category

- |                         |                                       |
|-------------------------|---------------------------------------|
| 01 = quantitative data  | 04 = gazetteers, bibliographies, etc. |
| 02 = qualitative data   |                                       |
| 03 = useful data absent | 05 = not reviewed                     |

Because each bibliographic entry is evaluated in each section in which it appears, the same reference can have more than one evaluation.

#### Cross-filed status

Letters following the letter X indicate whether a reference is cross-filed, and if so in what section. When a reference is cross-filed under more than one section, the X is not repeated before each section letter (e.g. XSC). When the annotation is absent from a bibliographic entry, the first section letter identifies the annotation location. Otherwise, the sequence of section designations has no significance.

X0 = Not cross-filed	XV = Vegetation Section
XG = General Section	XH = Hydrologic Geometry Section
XL = Surface Geometry Section	XC = Climate Section
XS = Soils and Geology Section	

Fig. 2. Key to reference identification system

GENERAL SECTION

Text

- G1-01-04-X0 Allied Geographical Section Southwest Pacific Area, An Annotated Bibliography of the Southwest Pacific and Adjacent Areas. 4 volumes, Brisbane, Australia, 8 August 1944, various pages.

AMS  
Z4501  
.A43

This reference covers all MERS countries except Burma. Only volume III, entitled "Malaya, Indochina, the China Coast and the Japanese Empire," 256 pages, need be considered, since other volumes apply to islands south and east, such as Indonesia, Philippines, New Guinea, Micronesia, Solomons, and Papua. Articles are annotated, having a summary of contents, maps, and illustrations. Major Australian libraries possessing copies are noted. All covered a wide range of subjects and many were found to be of interest from the standpoint of general terrain intelligence.

- G2-01-03-X0 Alunan, Rafael R., Agricultural Development in Southeastern Asia and Malaysia. Philippine Islands Department of Agriculture and Natural Resources, published by Manila Bureau of Printing, Manila, Philippine Islands, 1931, 106 pp, illus.

IC  
H2400  
.P5  
U31

This book describes agricultural conditions in Cambodia, Cochin-China, Thailand, the Straits Settlements, Sumatra, Java, Bali, and the Celebes with emphasis on the administrative and financial viewpoint.

The discussion on Thailand (pp 39-46) covers such subjects as the organization of the Ministry of Lands and Agriculture, along with an organizational chart; agricultural, mining, and fish products; the manufacturing industries; and an explanation of the laws regarding public lands. Tables present data on exports and imports for the preceding 10 years and crop production for 1928 and 1929.

- G3-02-03-X0 Amatyakul, Iri, The Thai Guide Book - Chonburi, Bureau of Arts, National Institute of Culture, Bangkok, Thailand, 1958, 49 pp, illus, maps.

AMS  
DS588  
C9T36

Brief descriptions of topography and general information, products and industry, communications, and accommodations within the province are given preceding detailed descriptions of cultural features. Numerous illustrations and four maps, Chon Buri municipal area at a scale of 1:10,000, Bang Saen and Ang Sila at a scale of 1:27,000, Sruraja at a scale of 10,000, and Pang Lamung at a scale of 1:67,000, are included.

- G4-01-04-X0 American Geographical Society of New York, Research Catalogue of the American Geographical Society, G. K. Hall and Company, Boston, Mass., 15 volumes, 1962, 10,436 pp.

This bibliography has two volumes arranged according to subject and the remaining volumes arranged by geographic area. There are no annotations, but virtually every subject is covered. The Southeast Asian section is divided into the respective countries and the Thailand portion contains approximately 300 entries.

- G5-01-05-X0 Anderson, Dr., English Intercourse with Siam in the Seventeenth Century. Kegan Paul, Trench, and Company, London, England, 1890.

IC  
DS577  
.A54

Not available for review.



G6-01-03-XLV

LC  
DS561  
.T5

Andersen, J. P., "A journey along a part of the Siam-Burma frontier." Journal of Siam Society, vol 18, Part 2, Bangkok, Thailand (1924), pp 111-134, illus, map.

This travel log records that part of a trip along the border from Raheng to Mesot to Medan and back to Mesot, to Umpang, northeast to Kamphaeng Phet, and finally to Bangkok. Qualitative descriptions of topography, villages, and vegetation are provided. A small-scale route map is included.

G7-01-03-X0

LC  
DS561  
.T5

Andersen, J. P., "A journey through and unfrequented part of Ayudha district." Journal of Siam Society, vol 20, Bangkok, Thailand (October 1926), pp 149-166.

This is an account of a trip through northeastern Changwat Lop Buri and northwestern Changwat Saraburi.

G8-01-03-X0

LC  
HD211  
.S5A5

Andrews, James Madison, Siam 2nd Rural Economic Survey, 1934-1935. The Bangkok Times Press, Limited, Bangkok, Thailand, December 1935, 396 pp.

This survey was carried out by Thai officials under the author's supervision and pertains to economic, medical, and anthropometric factors. The results and detailed supporting statistics are presented in the report, along with a map showing towns from which the statistics were gathered.

G9-01-05-X0

Annandale, N., "Preliminary report on the fauna of the Tale Sap or inland sea of Singora." Journal of the Natural History Society of Siam, vol 2, Bangkok, Thailand (1916-1918), pp 90-102.

Not available for review.

G10-01-03-XS

AMS  
HD940  
A79

Asanachinta, Boon Phoal. Land Utilization in Thailand, Master of Arts Dissertation, University of Chicago, Chicago, Ill., 1950.

This dissertation emphasizes economics and geography through discussions of natural and cultural features and of land utilization for rice, forests, rubber, coconut, and diversified crops. Most topics are presented in very general terms except soils which is discussed in some detail.

G11-01-03-X0

LC  
AP8  
.S7

Atthaker, Tarnoon, "A trip to Jaiya." Standard, No. 599, Bangkok, Thailand (June 21, 1954), pp 12-13.

This is an account of an archaeological trip to Jaiya presenting descriptions and ages of statues and artifacts examined.

G12-01-03-X0

LC  
DS560  
.K3

Barnett, David, The Mask of Siam. R. Hale, London, England, 1959, 189 pp, map.

The journey described lasted six months and passed from Bangkok through the north-central Chao Phraya drainage basin.

G13-01-03-X0

Bazley, A. G., "Geographical positions in Malaya and Siam." Empire Survey Review, vol 4, No. 30, London, England (October 1938), pp 450-457.

This article discusses the accuracy and extent of triangulation nets in Malaya and Siam, locating with precision many of the control points. Locations established by different surveys are compared.

G14-01-03-X0

John Grenar  
Library, Chicago  
240.9  
1897  
1897, 1901,  
and 1906

Beazley, C. Raymond, The Dawn of Modern Geography. 3 volumes: vol 1, John Murray, London, England, 1897, 538 pp (300-900 A.D.); vol 2, John Murray, London, England, 1901, 651 pp (900-1260 A.D.); vol 3, Clarendon Press, Oxford, England, 1906, 638 pp (1260-1420 A.D.), maps.

These volumes are a composite work on the progress of geography from 300 to 1420 A. D. Accounts of missionaries, traders, adventurers, and geographers were used extensively. Foremost authorities are quoted and the best available maps of the time are included. Very few of the travels touch southeast Asia and Thailand, and naturally the maps are now outdated.

G15-01-03-X0

Beckmann, Frank Harrison, Son of Siam. Stratford Company, Boston, Mass., 1939, 154 pp, illus.

LC  
P37  
.B4396  
S6

This fictional book is based on factual historical, political, religious, and geographical information. It concerns an overland journey from Saigon to Singapore and scenes in Thailand are either illustrated or vividly described.

G16-01-03-X0

Bergsmark, Daniel Rockman, Economic Geography of Asia. Prentice-Hall, Inc., New York, N. Y., 1935, 618 pp, illus, maps.

LC  
HC412  
.B4

The section which considers Southeast Asia is divided by country and discusses the following features for each country: geographical setting, climate, vegetation, relief, soils, products, etc. Emphasis is on economics so that very little information of value in quantitative terrain analysis is included. Small-scale maps supplement the text and a bibliography is included.

G17-01-03-X0

Berrigan, Martin J., Construction of Highways in Thailand. (Not published.) April 24, 1951, 8 pp, tables.

DIA/DL  
ELF  
148,876

This report describes the southern, northern, southeastern, and northeastern highways of Thailand in terms of route, length, use, and status of completion. A listing of present equipment plus a summary and recommendations conclude the report. Tables are included which show the highway budget for 1935-1950, construction of public roads 1918-1950, lengths of concrete bridges before 1935 and lengths of concrete bridges constructed each year from 1935-1950, existing number of road rollers in use by end of 1950, and a list of mechanical equipment in use by the end of 1950.

G18-01-03-XO Black, John Stewart, "Journey round Siam." Geographical Journal, vol 8,  
 No. 5, London, England (November 1896), pp 429-452 and 540, map.  
 AMS  
 G1  
 G34  
 U.8

The six-month trip on legal business passed east from Bangkok to Chanthaburi, Pailin, Battambang, and Siemreap; north from Khorat to Nong Khai and Pailan; and west to Nan and Chiang Mai. General descriptions are given for drainage, vegetation, topography, and local color. A route map accompanies the report.

G19-02-03-XL Black, John Stewart, The Lofty Sanctuary of Khao Phra Vihar. Prachander  
 Press, Bangkok, Thailand, 1956, 31 pp, illus, map.  
 AMS  
 D8564  
 B62

This description of a monument located on the Thailand-Cambodia border is preceded by a very brief description of the country along the route traveled from Bangkok via Ubon Ratchathani, Sisaket, and Kantharalak. A detailed description of the monument and accompanying structures and terrain is given with emphasis on structure and history. The legend of the monument and many illustrations conclude the book. A map, "Khao Phra Vihar," at a scale of 1:50,000, covering the geographic area of 14°22'N to 14°30'N and 104°40'E to 104°50'E is included. The mapped area does not cover the full sheet and shows Khao Phra Vihar located at 14°23'15"N and 104°41'E, drainage, and 25-meter contours for the Thailand portion adjoining the monument. The map has 2-deg coordinates and a penciled note states that it appears to have been traced from the Thailand Royal Survey Department 1:50,000 sheet 4-48-341.

G20-01-03-XO Blake, W. T., Thailand Journey. A. Redman, London, England, 1955,  
 192 pp, map.  
 LC  
 D8565  
 .B57

This traveler's account of a trip taken in 1955 presents detailed descriptions on food, important people, and living accommodations.

G21-01-03-XLSVHC Blanchard, Wendell, Thailand, Its People, Its Society, Its Culture.  
 HRAF Press, New Haven, Conn., 1957, 528 pp, maps.  
 AMS  
 D8564  
 B63

Of some value in this general reference is the section on geography which gives a brief description of the natural regions, rivers, climate, soil, and vegetation. A section on agriculture discusses general practices, crops, problems, irrigation, and forestry.

G22-01-03-XO Bock, Carl Alfred, Temples and Elephants. Sampson Low, Marston, Searle,  
 and Rivington, London, England, 1884, 438 pp, illus, map.  
 LC  
 D8565  
 .B66

This book describes a journey from Bangkok to the northern border region. The route followed the Mae Nam Chao Phraya and Mae Nam Ping most of the way to Fang, then north and east to the Mekong River. Emphasis is on people, customs, and culture. Hand-drawn sketches illustrate the text, and a small-scale route map is included.

G23-01-03-XO Boeles, J. J., "Excursion to Nakorn Pathom." Journal of Siam Society,  
 vol 38, Part 2, Bangkok, Thailand (1951), p 69.  
 LC  
 D8561  
 .T5

General, Text

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This note concerns a one-day trip to Nakorn Pathom and vicinity, and is limited to descriptions of cultural aspects of the city.

G24-01-03-X0 "Boundary treaties in Siam and Indochina." The Geographical Journal,  
vol 7, No. 3 (March 1896), pp 297-299, map.  
AMS  
G1  
G34  
V.7

This brief article describes the border treaties affecting Siam, Indochina, Burma, and China, and is illustrated in a small-scale map entitled "Sketch map of Siam and Indochina showing the Treaty Boundaries."

G25-01-C3-XLV Bourke-Borrowes, D., "Siam." Journal of the Central Asian Society,  
vol 15, Part 3, London, England (1928), pp 305-323.

This general paper deals with history, domestic and international relations, politics, and industry among other items. A discussion on geography divided the country into four natural regions on the basis of topography and climate.

G26-01-03-XLSVHC Bowring, Sir John, The Kingdom and People of Siam; with a Narrative to the  
Mission to That Country in 1855, 2 volumes, John W. Parker and Son, London,  
LC  
DS565  
.B78  
England, 1857, 482 and 446 pp, illus, map.

This narrative touches upon nearly all facets of landscape and life in Siam. Geographical and topographical information, climate and soils, natural resources, government, cities and Kings, and legends are discussed with vivid descriptions included. However, no quantitative terrain data are included.

G27-01-05-X0 Bradford, "Report on the Cambridge exploring expedition to the Malaya  
Provinces of Lower Siam." Proceedings of the British Association, London,  
England (1900). n.p.

This article was not located but a summation by W. A. Skeat, "Report on the Cambridge exploring expedition to the Malay Provinces of Lower Siam," Journal of the Royal Anthropological Institute of Great Britain and Ireland, vol 30, No. 74, London, England (1900), pp 73-77, appears in this bibliography. Not available for review.

British

SEE: Great Britain

G28-01-03-X0 Broerick, Alan Houghton, Beyond the Burma Road. Hutchinson and Co.,  
LC  
DS518  
.B69  
Limited, New York, N. Y., 1944, 112 pp, illus.

The book is divided into two sections: a description of Burma, Siam, French Indochina, and Malaya; and a study of the military and political forces of the Far East. Emphasis in the descriptions of countries is on the human element and topics such as communications, topography, and vegetation are discussed only generally. The military study discusses the influence exerted in Thailand by certain foreign countries (China, Russia, Japan).

G29-01-03-X0

Broek, Jan O. M., "Diversity and unity in Southeast Asia." Geographical Review, vol 34, No. 2, Burlington, Vt. (April 1944), pp 175-195, maps.AMS  
G1  
G35

This article examines the effects of colonialism, economics, and social issues on diversity and/or unity. The role of factors such as regional aspect, population density, languages, religion, markets and produce, etc., are discussed. Small-scale maps are included, but no detailed terrain information is included.

G30-01-03-X0

Busch, Noel F., Thailand, An Introduction to Modern Siam. D. Van Nostrand Company, Inc., Princeton, N. J., 1959, 166 pp, map.AMS  
D8563  
B97

This short book presents a general picture of Thailand's people, dignitaries, origin, history, current affairs, government, religions, art, and pastimes. The author spent four years in Thailand as a representative of The Asia Foundation.

G31-01-03-X0

Butterworth, Hezekiah, Cruising in the Indian Seas.SEE: Butterworth, Hezekiah, Zigzag Journeys in the Antipodes.

G32-01-03-X0

Butterworth, Hezekiah, Zigzag Journeys in the Antipodes. Brown, Estes, and Lauriat, Boston, Mass., 1888, 320 pp. Also published under the title Cruising in the Indian Seas.LC  
G57C  
B854

This book of legends and stories based on fact is written for children to encourage further reading in the books giving more detailed descriptions.

G33-01-03-X0

Campbell, Reginald Wilfred, Teak-Wallah--A Record of Personal Experiences. Hodder and Stoughton, London, England, 1935, 279 pp.LC  
D8565  
.C19

This is a narrative of the author's experiences while working teak concessions in Thailand. It describes selection, cutting, and rafting techniques and discusses the various personal problems such as sickness that developed. Some general observations are made concerning the inhabitants of the various regions.

G34-01-05-X0

Candler, Edmund, A Vagabond in Asia. Greening, London, England, 1900, 294 pp, map.

Not available for review.

G35-01-03-X0

Carpenter, Frank George, From Bangkok to Bombay: Siam, French Indo-China, Burma, Hindustan. Doubleday, Page and Company, New York, N. Y., 1924, 311 pp, map.LC  
D8413  
.C285

This travel log relates observations in Bangkok, along with descriptions of King Rama and his realm and the customs and rites of Thailand. Some general remarks are made concerning the people, living standards, and rice production in Indochina. No topographical or climatic data are given for any of the regions.

General, Text

G36-01-03-XO                      Carter, A., ed., The Kingdom of Siam. G. P. Putman's Sons, New York,  
LC                                      N. Y., 1904, 280 pp.  
DS565  
.C23

This collection of articles by government officials treats the following topics: the royal family, the government, a general description of Siam, military forces, history of the country, the language, religion, the capital city, finance, currency and banking, agriculture, forestry, justice, education, archaeology, transportation and communication, mining, commerce, and the industries of Siam. The general description includes summaries of weather, soil, rainfall, drainage, inhabitants, customs, and standards of living.

G37-01-03-XO                      Chakrabongse, Chula, "The political and economic background in Thailand."  
Journal Royal Central Asian Society, vol 42, Part 2, London, England  
(April 1955), pp 116-127.

This presents general and introductory information on Thailand's geography, economic background, the difference from the rest of Southeast Asia, political background, foreign policy, administration, police and armed forces, communications, education and health, culture, and religion.

G38-01-03-XS                      Charles M. Upham Associates, Monthly Progress Reports. Bangkok, Thailand,  
DIA/DL                                      1959-1962, various pages.  
EIF  
318,511

These unpublished reports give the monthly progress of the company on its various highway projects in Thailand. Categories considered are planning, location and design, construction, maintenance, materials investigation and soil surveys, equipment, and general information. Included information of possible value in terrain analysis concerns logs of test holes, laboratory tests of materials, numerous photographs of problem areas, construction, and various types of maintenance.

G39-01-03-XS                      Charles M. Upham Associates, Special Report on Department of Highways  
EIF 318,511/Pt. 2                      USOM/T Project No. 93-31-159. Bangkok, Thailand, July 15, 1962.

This report covers the activities of Charles M. Upham Associates from August 1960 through July 1962, the expiration of the contract dated August 1958. Of the seven chapters, the first is on highway system planning and includes several 1:5,000,000 maps of highway nets in Thailand. Chapter two covers locations, preliminary surveys, plans, and specifications. Chapter three deals with construction and touches on training, materials, budget, and labor. Chapter 4 is on highway maintenance, and types of surfacing materials and their characteristics are discussed. Chapter 5, on soils and materials, treats specifications, materials, surveys, and testing. Chapters 6 and 7 cover equipment and technical library.

G40-01-03-XO                      "The Chiangmai road." Standard, No. 282, Bangkok, Thailand (May 24, 1952),  
LC    pp 12-14, 23, 26, 29, and 32; No. 283, Bangkok, Thailand (May 31, 1952),  
AP8    pp 21 and 32, illus.  
.S7

This is an account of an automobile tour from Bangkok to Chiangmai and back, with a side trip to Mae Sai and Chiang Saen on the Burma and Laos borders, respectively. Descriptions of townspeople, road conditions, and accommodations are included.

G41-01-04-X0 Chulalongkorn University Central Library, Bibliography of Material About Thailand in Western Languages. Bangkok, Thailand, 1960, 326 pp.  
USDSt  
Z3236  
.B3 Ref.

This extensive bibliography includes material from many sources up to August 1959. Approximately 5000 references are given under 20 subject titles. References of value to MERS can be expected under bibliography, commerce, communications, pure science and applied science, history, travel, and biography, and general sections. A list of periodicals that publish articles on Thailand is presented at the end of the bibliography.

G42-01-03-X0 Clifford, Hugh, Further India. Frederick A. Stokes Co., New York, N. Y.  
LC  
DS523  
.C63  
1904, 367 pp, illus, maps.

This book reviews the knowledge of Southeast Asia as gained by Europeans previous to and during the 19th century. Expeditions up the Mekong from Phnom Penh to Luang Prabang, in the Shan States and Yun-nan, in Burma, and further journeys in Siam, Malaya, and French Indochina are discussed. An extensive bibliography and several small-scale maps are presented but terrain information is lacking.

G43-01-03-X0 Coast, John, Railroad of Death. The Commodore Press, London, England,  
LC  
D805  
.J3C57  
1946, 256 pp, map.

This is a personal account of one of the former prisoners of war who labored on the Thai-Burma railway for the Japanese. Most of the account deals with personalities and the great hardships endured during construction.

G44-01-03-X0 Colquhoun, Archibald R., Dan to Beersheba. Premier Press, New York, N. Y.,  
LC  
G463  
.C71  
1908, 150 pp.

This colorful account of the author's travels touches on Burma, Indochina, and Thailand, among other countries. The account gives vivid descriptions of the author's life as a surveyor, soldier, and traveler.

G45-01-03-X0 Communication Systems, Thailand. Intelligence Estimate, annex A.3, April  
DIA/DL  
EIF  
335,062  
1959, 5 pp.

The communication routes of roads, railways, and waterways are briefly described. General descriptions are given as to type roads and projected traffic density for general roads, routes and critical or vulnerable points for railways, and routes and local craft for the waterways.

G46-01-04-X0 Cornell University, Department of Far Eastern Studies, Bibliography of Thailand. Data Paper No. 20, Ithaca, N. Y., 1956, 64 pp.

This annotated bibliography contains sections on history, economics, politics and government, public health and welfare, education, social organization, religion, art, literature, language, ethnic groups, and general subjects.

General, Text

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G47-01-03-XLVC      Corner, Julia, China: Pictorial, Descriptive, and Historical with Some Account of Ava and the Burmese, Siam, and Annam. Henry G. Bohn, London, England, 1853, 521 pp, illus, map.  
LC  
DS507  
.C81

This extensive work includes all MERS countries but Malaya, describing geography, climate, flora, fauna, religion, politics, legends, etc. The descriptions given, while not quantitative, furnish a good qualitative look at the countries, with emphasis placed on historical politics and customs.

G48-01-03-X0      Cosenza, Mario Emilio, The Complete Journal of Townsend Harris; First American Consul General and Minister of Japan. Doubleday, Doran and Company, Inc. for Japan Society, Garden City, N. Y., 1930, 616 pp, illus.  
LC  
E183  
.8  
.J3H3

This is Mr. Harris' journal of travels in Siam from 21 May 1855 to 9 June 1858. The writings are carefully dated and contain all important occurrences and observations. Very little is of a scientific nature, and antiquity undoubtedly makes this only of historical interest.

G49-01-03-X0      Crawford, John, Journal of an Embassy from the Governor-General of India to the Courts of Siam and Cochinchina; Exhibiting a View of the Actual State of Those Kingdoms. 2d edition, 2 volumes, Henry Colburn and Richard Bentley, London, England, 1830, 475 and 459 pp, illus, maps.

The first volume presents a day-by-day diary of a trip from Rangoon, on November 21, 1821, around Malaya to Siam and Indochina, and return to Calcutta on December 29, 1822. In the second volume is given a description of Siam, Malaya, Singapore, and Indochina relative to history, religion, physical geography, and ethnic groups.

G50-01-03-X0      Credner, Wilhelm, Cultural and Geographical Observations Made in the Thai Region, Siam. Bangkok, Thailand, 1935, 20 pp, charts, map.  
LC  
DS793  
Y8C72

The setting of the book is in southwestern China, and it concerns the origin of the Thai people.

G51-01-03-XLSVHC      Credner, Wilhelm, Siam, das Land der Tai. J. Engelhorn's Nachf., Stuttgart, Germany, 1935, 422 pp, illus, maps.  
LC  
DS565  
.C92

This German book discusses geological structure and surface configuration; climate, water, and soil; natural landscape; people and their lives; landscape and economics; government and culture; and markets and towns. It appears to be very comprehensive and has been reported to be the "best geography of Thailand" and the "only complete cultural geography of Thailand." Numerous photographs and maps, at a scale of 1:10,000,000, are included and among the latter are geology, morphology, rainfall, and vegetation maps. A 336-item bibliography is included, and it is an excellent source for German and Dutch works in the country.

G52-01-03-X0      Credner, Wilhelm, Siam, das Land der Tai. (Translated by Central Intelligence Agency), Parts 1 and 2, 1953.  
DIA/DL  
EIF  
209,806



This part of Credner's work discusses the people of Thailand and classifies them according to geographical setting and agricultural habits. Information on agriculture is quite general.

G53-01-03-XLSVIC Credner, Wilhelm, Siam, das Land der Tai. (Translated by Miss Collmann, Army Map Service), 1959, 84 p.  
DIA/DL  
EIF  
340,056

Pages 35-94, 105-126, 185-190, 212-222, and 395-400 of the German text have been translated into English. These sections concern relief of aggradation plains, alluvial plains, old erosion surfaces, hill lands, and mountains; the association of forms in morphological areas; the Mekong area and Khorat Plateau; and climate, water supply, and soils. Vegetation and forests are discussed, as are also the topics: the climatic-hydrologic basis for rice cultivation, ancestral methods of irrigation, and modern irrigation installations.

G54-01-03-X0 Cressey, George Babcock, Asia's Lands and Peoples. 2d ed, McGraw-Hill Book Co., New York, N. Y., 1951, 597 pp, illus, maps.  
LC  
DS5  
.C7  
1951

Pages 509-517 on Thailand discuss in a general way the climate, crops, and natural vegetation for each of four sections of the country. Similar treatments of the other Southeast Asian countries are combined into one of seven sections on the parts of the continent and adjacent islands.

G55-02-05-X0 Cucherousset, Henri, Quelques Informations sur le Siam. Imprimerie d'Extreme-Orient, Hanoi, North Vietnam, 1925, 124 pp, maps.  
(In French)

Not available for review.

G56-01-03-X0 "Cultivation of wet rice mechanical method used in Malaya and Siam."  
LC  
SB4  
.W6  
World Crops, vol 1, No. 2, London, England (October 1949), p 49, illus.

This article, less than a page long, describes a new machine called Rotavator used to cultivate dry fields. Adoption by Siamese, Malayan, and Burman farmers is expected to increase.

G57-01-05-X0 Cutshall, Alden, The Geographic Setting of Southeast Asia. Second Southeast Asian Conference, Silliman University, Dumaguete, Philippines, January 1958, unpublished.

Not available for review.

G58-01-03-X0 de Fonseka, Samitha, "Geographical diversity in Southeast Asia."  
AMS  
G1  
P55  
Philippine Geographical Journal, vol 6, No. 2, Manila, Philippines (April-June 1958), pp 75-86.

Among subjects treated in a general way are geography, physiography, climate, vegetation, and pedology. In this paper Southeast Asia includes, among others, the Philippines and Indonesia and also India, Pakistan, and Ceylon.

General, Text

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G59-01-03-XO            Deignan, Herbert Girton, "Siam-land of free men." Smithsonian Institution War Background States Number Eight, publication 3703, Smithsonian Institution, Washington, D. C. (February 5, 1943), 18 pp, illus, map.  
LC  
GN4  
.S6

This article discusses in general terms the geography, peoples, and history of Siam, with the emphasis being on the latter. Photographs show general views of the countryside and a small-scale map locates the major cities.

G60-01-03-XO            de Vries, E., "Land, water, and rice on the Mekong." Annual Report, International Institute for Land Reclamation and Improvement, Wageningen, Netherlands (1961), pp 5-19.  
AMS  
TU343  
I61

Aspects of agriculture such as crop yields, flood risk, and rainfall are stressed. Statistics support the text. Of some interest is the author's observation that fine quartzose soils of southeast Thailand are least productive.

G61-01-03-XO            de Young, John E., Village Life in Modern Thailand. University of California Press, Berkeley, Calif., 1955, 225 pp, illus, maps.  
LC  
HD940  
.5  
.D4

This is a description of the Thai peasants who live outside the Bangkok delta plain. Emphasis is on the social and economic point of view through discussions of village organization, social organization, life history of the individual, agricultural and economic patterns, religious beliefs and practices, and changing scope of the villager's world.

G62-01-03-XLSVHC        Dobby, Ernest Henry George, Monsoon Asia. Quadrangle Books, Inc., Chicago, Ill., 1961, 381 pp, illus, maps.  
LC  
DS10  
.D59

This book not only discusses climate, but also natural resources, landscape, land use, agriculture, ethnology, and history. The chapter on Southeast Asia covers 41 pages, and, as expected, is general. All MERS countries are covered, and the many maps included illustrate almost every topic. The book has good material; however, it is of limited use because of its wide scope.

G63-01-03-XLSVHC        Dobby, Ernest Henry George, Southeast Asia, 7th ed, University of London Press, Limited, London, England, 1960, 415 pp, illus, maps.  
AMS  
GB295  
D63  
1960

This comprehensive reference is concerned with both the landscape and the human geography of Southeast Asia and its constituent countries. The natural landscape, climate, drainage patterns, soils, and vegetation along with cultural aspects and social landscape of Thailand presented in pages 259-287 are of a general nature but they do provide some specific data. Figures and small-scale maps illustrate this part of the book and 18 references are given for Thailand.

G64-01-03-XO            Douglas, William Orville, North from Malaya. Doubleday and Company, Inc., Garden City, N. Y., 1953, 352 pp, illus.  
LC  
DS518  
.1  
.D6

This book is divided into five parts, which discuss different geographic areas: Malaya, Philippines, Vietnam, Burma, and Formosa - Korea. It concentrates on the communist threat to these areas, especially the guerrilla forces.

G65-01-03-X0 East, William Gordon and Spate, Oskar Hermann Christian, The Changing Map of Asia: A Political Geography. 3rd ed, E. P. Dutton and Company, Inc., New York, N. Y., 434 pp, maps.  
 AMS  
 GB295  
 E13  
 1958

This compilation of various authors' works attempts to familiarize the reader with the peoples and lands of Asia and to broadly survey the political geography situation. It presents a brief background, and then discusses Southwest Asia, India and Pakistan, Southeast Asia, Communist China and Mongolia, Far Eastern Margins, and Asiatic U.S.S.R. The patterns imposed by both external and internal political forces are examined in detail with respect to historical background. Some tables and small-scale maps illustrate the text, and a selected reading list concludes each section.

G66-01-03-X0 Elder, William A., "A day in the teak forest." Standard, No. 92, Bangkok, Thailand (December 27, 1947), pp 21 and 29.  
 LC  
 AP8  
 .S7

This article presents an account of breaking up a log jam on a rising unnamed river and emphasizes the elephant's role.

G67-01-03-X0 Elder, William A., "A teak wallah looks back." Standard, No. 246 (September 15, 1951), pp 12 and 13; No. 247 (September 22, 1951), pp 13-24.  
 LC  
 AP8  
 .S7

The author reminisces about his days as a teak wallah in northern Siam. General discussions of the profession, various duties, and hardships encountered are given.

G68-01-03-X0 Elder, William A., "The chief of Lampang." Standard, No. 200, Bangkok, Thailand (December 23, 1950), pp 14 and 15.  
 LC  
 AP8  
 .S7

An account of the experiences concerning the author and the Chief. The author describes the decor of the Chief's home, parties he gave, near untimely cremation of his wife, his death in 1942, and the long awaited cremation (1947) which was due to the theft of the money he had set aside for that purpose.

G69-01-03-X0 Elder, William A., "River journey." Standard, No. 51, Bangkok, Thailand (May 24, 1947), p 10; No. 52 (May 31, 1947), p 10; No. 53 (June 7, 1947), pp 24-25.  
 LC  
 AP8  
 .S7

This is an account of the author's 1902 journey up the Chao Phraya, Me Ping, and Me Wang Rivers to Lampang. The trip took about 80 days and covered 400-500 miles. Experiences with help, thieves, and the river are vividly described. No topographical or detailed river descriptions are included.

General, Text

G70-01-03-X0            Elwin, Verrier, "Chiengmai - land of smiles." The Geographical Magazine,  
vol 25, No. 7, London, England (November 1952), pp 359-361.  
LC  
G1  
.G343

This article presents a colorful description of the city, surrounding country, and its inhabitants. Eight large photographs are included.

G71-01-04-X0            Embree, John Fee, Books on Southeast Asia: A Select Bibliography.  
American Institute of Pacific Relations, New York, N. Y., July 1956,  
43 pp.  
LC  
Z3001  
E52  
1956

This is a revision of the 1950, 1952, and 1955 editions of the author's works and includes all of the MERS study area. Historical, political, economical, and cultural references are emphasized.

G72-01-04-X0            Embree, John Fee, and Dotson, Lillian Ota, Bibliography of the Peoples and  
Cultures of Mainland Southeast Asia. Southeast Asia Studies, Yale  
University, New Haven, Conn., 1950, 821 pp.  
LC  
Z3001  
.E5

This bibliography covers Assam, Chittagong, Burma, Thailand, Laos, Cambodia, Vietnam, and South China. Both English and foreign-language references are cited and some are annotated. Emphasis is on anthropology.

G73-01-03-X0            Evans, Ivor H. N., "An ethnological expedition to South Siam." Journal  
of Federated Malay States Museum, vol 12, Part 2, Singapore (1925),  
pp 34-56.  
LC  
QH1  
.F3

The expedition sought information and objects of the Negritos of southern Siam. Notes on topography are at a minimum.

G74-01-03-X0            Exell, F. K., The Land and People of Thailand. Macmillan Co., New York,  
N. Y., 1960, 96 pp.  
AMS  
DS563  
E96

This is a short, general, elementary book describing Thailand. The land is described with brief sections on climate, rivers, jungle, rice, teak, and tin.

Far Eastern Association

SEE: Association for Asian Studies.

G75-01-03-X0            Fisher, C. A., "The Thailand-Burma railway." Economic Geography, vol 5,  
Worcester, Mass. (April 1947), pp 85-97, illus, maps.

The article reviews proposed communication routes between Thailand and Burma and across the Kra Isthmus and describes construction of the Thailand-Burma railway. Future value of the line is discussed. Vertical aerial photographs (unknown scale) are utilized for illustrations.

G76-01-03-XO Freeman, Andrew A., "The kingdom of Siam." Current History, Detroit, Mich. (May 1931), pp 226-230, map.

This article presents a brief sketch of the country, with emphasis on politics.

G77-01-03-XO Furnivall, John Sydenham, The Tropical Far East. Oxford Pamphlets on World Affairs No. 71, Oxford University Press, London, England, 1945, 32 pp, map.  
LC  
D411  
.08  
No. 71

The author presents a "bird's-eye" view of the Far East as a whole and insists that any problems have to be studied against this background. Regional units, physical features, economic geography, populace, language, social sciences, and western contact and influence during the 19th and 20th century are discussed. The physical features are described in very general terms.

G78-01-05-XO Garnier, B. J., "Some comments on defining the humid tropics." Research Notes, No. 11, University College, Department of Geography, Ibadan, Nigeria (1958), pp 9-25.

Not available for review.

G79-01-03-XO Gerini, Gerolamo E., "Historical retrospect of Junkceylon Island." Journal of Siam Society, Bangkok, Thailand, vol 2, Part 2 (1905), pp 1-139.  
LC  
DS561  
.T5

This article concerns the island of Phuket and parts of the coast of the Thailand peninsula. Published and unpublished journals, logs, and other descriptions were used to compile the history from 12th to 18th century. Very little information on environment is included.

G80-01-03-XO Ginsburg, Norton, ed., Pattern of Asia. Prentice-Hall, Englewood Cliffs, N. J., 1958, 929 pp.  
AMS  
DS6  
G49

Southeast Asia includes the Philippines, Indonesia, Malaya and British Borneo, Thailand, Indochina, and Burma. As with the others, Thailand is treated (pp 391-409) in general terms with respect to natural resources, agriculture and land utilization, population and settlement, industry, trade, and development. Small-scale land-use maps are included.

G81-01-03-XO Gould, Joseph S., "Thailand, a developing economy." Indian Quarterly, vol 8, No. 3, New Delhi, India (July-September 1952), pp 311-334.

This general view of Thailand's economy touches on the economics of agriculture, fisheries, and forestry and on transportation and communication among other topics. Various statistical tables supplement the report.

G82-01-03-XLSVHC Graham, Walter Armstrong, Siam: A Handbook of Practical, Commercial and Political Information. 2nd ed, Alexander Moring, Limited, London, England, 1912, 637 pp, illus, map.  
LC  
DS565  
.G8  
1912a

General, Text

This is one of the most comprehensive overall books on Thailand. It touches nearly all subjects and descriptions ranging from very general to very detailed. Pictures profusely illustrate the works and a small-scale map of the country is included.

G83-01-05-XO                      Great Britain Admiralty Naval Intelligence Division, Thailand and Intelligence Report. C. B. 1829, London, England, pp 39-41.

Not available for review.

G84-01-03-XSV                      Great Britain Foreign Office, Siam Basic Handbook, London, England, 1945, 147 pp, maps.

LC  
DS565  
.8B15

This handbook gives a concise view of the country and people of Thailand. It is presented in sections on politics and economics, but a lengthy introduction describes the country, its population, and historical setting. The political situation is discussed in terms of local and central government, legal system, education, religion, social conditions, communications, armed forces, foreign policy, etc. The economics section deals with the subjects of mineral resources, agriculture, livestock, fisheries, forestry, fuel, trade, etc. Each of these sections is supplemented by statistical data. Four maps are included.

The first map, "Siam Minerals," is at a scale of 1:5,500,000 and shows spot locations of tin; wolfram; sapphire, zircon, and ruby; and salt deposits. This map also shows major towns and drainage.

The second map, "Railways of Indo-China, Siam and Malay," is at a scale of 1:10,000,000, and in addition to the rail system, shows international boundaries and major towns along the route.

The third map, "Siam Administrative map showing provinces," is at a scale of 1:3,000,000, and province boundaries and names are shown. A list of the provinces is included.

The fourth map, "Siam Agriculture," at a scale of 1:5,500,000, shows the very generalized areal extent of rice, teak, tobacco, coconut, cattle, rubber, forest, and fish. The map also shows major towns and drainage.

None of the maps have coordinates, and with the exception of the third map, are too generalized to be of great use.

G85-01-05-XO                      Great Britain Interservice Topographical Department, Siam-Excluding the Kra Isthmus. ISIS-BR. 1208c, 1945.

Not available for review.

G86-01-03-XLV                      Great Britain Interservice Topographical Department, Southeast Asia Command, Siam Roads - Kanburi to Bon Pong, Three Pagodas Pass to Kanburi, and Lam Poeng to Kemayyu. 1946-47, 23 pp, maps.

SIA/DL  
EDF  
240,836

Width, surface condition, and bridge reports are supplemented by maps for each route. Information on banks and alternate crossings are to be found under bridge reports. Short descriptions of terrain mention the following facts: the Kanburi - Bon Pong road crosses flat alluvial terrain mostly planted with rice but locally containing areas of scrub and woods, and from the Pass to Kanburi the country is undulating but no bridges are necessary until Sonkrai; from Sonkrai the route passes through forested country with thick bamboo and scrub undergrowth; etc.

G87-01-04-XO                      Great Britain Ministry of Information, Far Eastern Bureau, Indochina Section, Gazetteer of Indochina. New Delhi, India, 1945, 69 pp.

LC  
DS532  
.5  
.G72

This gazetteer contains approximately 3000 entries composed of towns, mountains, islands, military post, etc., each of which is located by geographical coordinates. An appendix lists

towns and villages which were formerly in French Territory but are now (1945) ceded to Siam.

G88-01-03-YO Great Britain RECCE Unit, Supreme Allied Command in Southeast Asia,  
DIA/DL Paknan-Cholburi-Chanthaburi Road, 28 Jan - 2 Feb 1946, Bridge Report.  
EIF 1946, 35 p.  
240,837

The section on roads contains a subsection on surrounding country which provides a general view of the area. Soil types and vegetation types are mentioned occasionally.

G89-01-03-XO Grindrod, Mrs., Siam: A Geographical Summary. Edward Stanford, London,  
LC England, 1895, 142 pp.  
DS565  
.G83

This book relates the geographical, historical and political, physiographical, anthropological, and commercial and industrial aspects of the country. The intention is to provide only background information. While general in nature, it provides a good thumbnail sketch of the country.

G90-01-03-XL Hallett, Holt S., A Thousand Miles on an Elephant in the Shan States.  
LC William Blackwood and Sons, London, England, 1890, 484 pp, illus, map.  
DS560  
.H2

The book relates experiences during railway route surveying in Siam and the Shan States. Thorough qualitative descriptions of topography, the people, culture, etc., cover the journey from Moulmein, to Ban Meh Hang (near Fang), and to Bangkok via Tak.

G91-01-03-XO Hanf, M. "A cruise in the Gulf of Siam." Standard, No. 293, Bangkok,  
LC Thailand (August 9, 1952), pp 12 and 13, 22 and 23, illus.  
AP8  
.S7

This popular account of a holiday cruise contains no terrain data. Brief mention is made of trips to Songkhla, Hat Yai, Pattani, Narathivat, and the Coconut Islands.

G92-01-03-XO Hanf, M. "A visit to Chiangmai." Standard, No. 301, Bangkok, Thailand  
LC (October 4, 1952), pp 12 and 13, 21 and 32, illus.  
AP8  
.S7

This article describes cultural sights at Chiangmai and vicinity.

G93-01-03-XO "The happy kingdom." Fortune, vol 57, No. 4, New York, N. Y. (April  
1958), pp 131 and 132, 228, and 230-232, illus.

A brief view of the country precedes a general report on economic conditions.

G94-01-03-XO Hartley, C. W. S., "The mechanization of rice cultivation." Soils and  
Fertilizers, vol 14, No. 4, Harpenden, England (August 1951), pp 267-270.  
LC  
S590  
.S67

General, Text

This article considers the problems of mechanization of rice cultivation in different parts of the world, including, in general terms, Malaya, Burma, and Thailand. Rainfall, subsoil conditions, and tractor types are discussed.

G95-01-03-XH      Hashiguchi, Masuo, Debriefing of Source Case No. 35199. U. S. Army Corps of Engineers, Army Map Service, Washington, D. C., July 10, 1961, 5 pp, maps.  
DIA/DL  
EIF  
370577

This report consists of observations of a missionary resident of the area limited by Chiang Khan on the northwest, Nakhon Phanom on the northeast, Ubon Ratchathani on the southeast, and Khorat on the southwest. Emphasis is on routes and populated places, but some information on terrain is included. Of note is the observation that the Lam Chi at Ban Lup Kha, southwest of Khon Kaen, is 30 yd wide and 10 ft deep in the dry season and 100 yd wide and 35-40 ft deep in the wet season. Other notes pertain to changing road and bridge conditions. Maps illustrate the routes described.

G96-01-04-XO      Helmfrid, Staffer, ed., Final Congress Report Bibliography, Congress Members, etc., Norden, 1960. International Geographical Union, Stockholm, Sweden, 1963, 138 pp.

This report contains a few references to papers treating Southeast Asia.

G97-01-03-XO      Hervey, Harry, King Cobra. Cosmopolitan Book Corporation, New York, N. Y., 1927, 301 pp, illus, map.  
LC  
DS534  
.H4

The journey which is described was largely in Indochina except for a segment that lies along the Mekong River from Khong to Vientiane. Most of the information is on people and their cultural background. A small-scale route map is included.

G98-01-04-XO      Hills, Theo. L., A Select Annotated Bibliography of the Humid Tropics. International Geographical Union, Special Commission on the Humid Tropics, Montreal, Quebec, Canada, June 1960, 238 pp.  
LC  
Z6004  
.T715

This bibliography contains approximately 4000 entries with annotations of various lengths. It deals with tropical areas of Asia, the Pacific Ocean, Africa, and Latin America, with each of these areas being broken into the respective countries. The Thailand portion occupies pages 21-24 and contains a total of 31 entries under classes of general, physical, social and economic, and periodical references.

G99-01-03-XO      Hobbs, Cecil, An Account of an Acquisition Trip in the Countries of Southeast Asia. Cornell University, Department of Far Eastern Studies, Southeast Asia Program Data Paper No. 3, Ithaca, N. Y., February 1952, 51 pp.  
Cornell  
University  
Library  
Wason  
23011+  
H68

This is an account of experiences on a library acquisition trip to Southeast Asia. A summary presents the author's contacts, agreements, and purchases.



- G100-01-03-XO      Hobbs, Cecil, Account of a Trip to the Countries of Southeast Asia for the Library of Congress, 1952-53. Cornell University, Department of Far Eastern Studies, Southeast Asia Program, Data Paper No. 11, Ithaca, N. Y., 1953, 89 pp.
- LC  
Z451  
.H5

Activities within all MERS countries for the U. S. Library of Congress are summarized. Methods and improvements of acquisitions are described with the specific steps taken outlined.

- G101-01-04-XO      Hobbs, Cecil, Southeast Asia: An Annotated Bibliography of Selected Reference Sources. U. S. Library of Congress, Orientalia Division, Washington, D. C., 1952, 163 pp.

This annotated bibliography contains approximately 350 entries, and it covers the MERS study area, Indonesia, and the Philippines. Each country has entries relating to general background; history, politics, and government; economics; social conditions; and cultural life. The books have unusually long annotations. The bibliography contains several items which may be of general use to a quantitative terrain analysis program.

- G102-01-04-XO      Hobbs, Cecil, Southeast Asia 1935-45: A Selected List of Reference Books. U. S. Library of Congress, Orientalia Division, Washington, D. C., 1946, 86 pp.
- LC  
Z3221  
.U5  
1946

This annotated bibliography contains approximately 750 entries, and it covers the MERS study area and the East Indian Archipelago. Each country has entries relating to agriculture, arts and sciences, economics and commerce, education, ethnology and sociology, geography and geology, history and biography, language and literature, philosophy and religion, politics, government and law, World War II and reconstruction, and general references and bibliography. This bibliography contains several items which may be of use to a quantitative terrain analysis program.

- G103-01-03-XO      Holland, Robert, "Changing Siam." Asiatic Review, vol 33, No. 114, London, England (April 1937), pp 386-397.

This article emphasizes history and politics.

- G104-01-03-XO      Hutchinson, Edward W., Adventurers in Siam in the Seventeenth Century. Royal Asiatic Society, London, England, 1940, 283 pp, illus, maps.
- LC  
DS577  
.H56

This well-documented book describes the rise and fall in the 17th century of Constantine Phaulkon, as Prime Minister of Siam.

- G105-01-05-XO      India General Staff, General Headquarters, Notes on Thailand. 4 volumes, 2561/DMI/G.S.I., Calcutta, India (?). n.d.

Not available for review.

- G106-01-04-XO      India Survey Director, Gazetteer of Siam. New Delhi, India, 1946, 89 pp.
- AMS  
DS566  
L39

General, Text

The gazetteer is preceded by an index to the 1:253,440 HIND series maps (prepared by the Indian Directorate of Military Survey) which cover Thailand. All of the approximately 18,000 place names appearing in this set of maps are listed and located by map sheet, by grid coordinates to the nearest 10,000 yd, and by latitude and longitude to the nearest minute.

G107-01-03-X0            Ingram, James C., Economic Change in Thailand Since 1850. Stanford  
USDA                      University Press, Stanford, Calif., 1955, 254 pp.  
280.186  
In4

This book is concerned with the various aspects of economics, and it approaches them through discussions of historical background, economy in 1850, growth of rice exports, government's role in the rice industry, growth of other exports, imports and home market industries, currency and exchange, sources of government revenue, government expenditures, development of an exchange economy, and recent development to 1954. Approximately 150 references are listed.

G108-01-03-XH            International Bank for Reconstruction and Development, A Public Develop-  
AMS                      ment Program for Thailand. Johns Hopkins University Press, Baltimore,  
HC497                      Md., 1959, 301 pp, maps.  
T3I61

Although this report is primarily concerned with economic and social growth of Thailand in the next few years, it does contain some information on irrigation.

G109-02-03-X0            International Bank for Reconstruction and Development, Mission to  
DIA/DL                      Thailand, Report of Road Engineer. April 1953, 167 pp, maps.  
EIF  
229,748

This report contains observations on the condition of Thailand's roads and recommendations for their improvement. Pages 110-167 consist of photographs and appendixes which supplement the text. Among these materials are a map showing existing and proposed national and provincial routes at a scale of 1:2,500,000 and maps at 1:1,000,000 showing by section all roads with bituminous, macadam, laterite or gravel, and earthen surfaces. Base width of roads is also included.

G110-01-03-X0            International Institute for Land Reclamation and Improvement, Annual  
AMS                      Report 1961. Wageningen, Netherlands, 1962, 59 pp, maps.  
TC343  
161

Information on rice planting in the Mekong area of Laos, Thailand, Cambodia, and Vietnam is slanted toward economics and has no information useful to terrain analysis.

G111-01-04-X0            International Rice Research Institute, International Bibliography of  
Rice Research. The Scarecrow Press, Inc., New York, N. Y., 1963, 881 pp.

This bibliography encompasses the years 1951-1960 and contains more than 7000 entries covering all phases of rice culture. Each entry has a very brief annotation. It includes sections on soils and irrigation and drainage but Thailand has no entries in these categories. The bibliography has author, subject, and geographic indexes.

G112-02-03-XH            Joint U. S. Military Advisory Group, Information and Statistics of High-  
DIA/DL                      ways, Railways, and Irrigation Projects. Unpublished, Bangkok, Thailand,  
EIF                          December 14, 1954, various sections and pages.  
240,894

This report gives various data gathered from many sources pertaining to the highway, railway, and irrigation works of Thailand. Highway construction equipment inventories; lists of bridges in the southern, northeastern, central, and northern regions giving route location, kilometer marking, and type; bridge plans in Thai; lists of mobile irrigation pumps, trucks, tugs and barges, and tractors and cranes; tables of road and bridge construction in 1951, 1952, 1953, and 1954; list of tank irrigation projects giving name, province, district, storage capacity, and surface area; construction equipment inventory; and maintenance personnel inventory are included. Three maps are included. The map, "North-Eastern Project, location of tanks and various irrigation projects," at a scale of 1:500,000, covers the geographic area of 14°N to 18°30'N and 101°E to 105°30'E. This map does not have a legend but shows locations of irrigation works, highways, railways, drainage, towns, province boundaries, numerous spot elevations, and 1-deg coordinates. The second map has the title printed in Thai with the remainder being bilingual. This map, at a scale of 1:1,000,000, is referred to in the text as "Road map of Thailand." Roads are shown as black top, crushed stone, and gravel or laterite surface; grading only completed - no clearing surface; under construction; located; and proposed. It also shows kilometer markings, towns, and drainage. The map has no coordinates. The third map, "Map of Thailand," at a scale of 1:2,500,000, shows roads under construction and maintenance and roads projected and surveyed. It also shows railroads, towns, drainage, and 5-deg coordinates.

G113-01-03-X0 JTH-Thailand L-10, Crop Calendar for Thailand. Bangkok, Thailand, June 23, 1954, 5 pp.  
SEE: U. S. Embassy, Thailand, Crop Calendar for Thailand. Bangkok, Thailand, June 23, 1954, 5 pp.

G114-01-05-X0 Jumsai, Manich, Geography of Siam. Rung-Rueng-Dharm Press, Bangkok, Thailand, 1948, 60 pp, illus.

Not available for review.

G115-01-03-X0 Keith, Arthur, "An account of a journey across the Malay Peninsula from Koh Lak to Mergui." Journal of Royal Asiatic Society, Straits Branch, vol 24, Singapore (December 1891), pp 31-41.

The article contains very general descriptions of topography, drainage, and local color on an overland and river trip in the monsoon season.

G116-01-03-X0 Kennedy, H. G., "Report of an expedition made into southern Laos and Cambodia in the early part of the year 1866." Journal of Royal Geographical Society, vol 37, London, England (1867), pp 298-328.

Descriptions of customs, and local color, etc., are summarized from a trip passing from Bangkok through southeastern Thailand to Tonle Sap and the coast of Indochina. Brief general descriptions of topography are also included. A small-scale route map is included.

G117-01-03-XV Kerr, Arthur Francis George, "Notes on a trip from Prachuap (Kaw Lak) to Mergui." Journal of Siam Society, vol 26, Part 2, Bangkok, Thailand (1933), pp 203-214, map.  
LC  
DS561  
.T5

This account of a trip in search of Mgr. Lambert's route of 1662 contains brief descriptions of the road and river route and of the vegetation.

General, Text

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- G118-01-03-X0      Kirsch, Arthur C., and Nelson, Courtney A., 14 December 1955, Annular Solar Eclipse Observation Sites, VI. Bangkok and Koke Kathiem, Thailand. American Geographical Society, New York, N. Y., (October 1955), 17 pp, map. (Prepared for Geophysics Research Directorate, Air Force Cambridge Research Center, Contract No. AF19 (604)-826.)

This report presents a review of Thailand's physical and historical background and then gives a detailed description and appraisal of the value of two sites for temporary observation stations. A large-scale map, "City of Bangkok," concludes the article.

- G119-01-03-X0      Klein, Hann, "A visit to Petchaburi." Standard, No. 143, Bangkok, Thailand (September 24, 1949), pp 11 and 20.  
LC  
AP8  
.S7

This account records a trip by a group of students. Two caves are among places that were visited.

- G120-01-05-X0      Kloss, C. Boden, "The Pulo Condore Group and its mammals." Journal of the Natural History Society of Siam, vol 4, Bangkok, Thailand, (1920-1922), pp 73-83.

Not available for review.

- G121-01-05-X0      Kloss, C. Boden, "Zoogeographical divisions for Siam." Journal of the Natural History Society of Siam, vol 1, Bangkok, Thailand (1914-1916), pp 250-251.

Not available for review.

- G122-01-03-X0      Korzan, Gerald E., "Resource use in Thailand." Land Economics, vol 33, No. 4, Madison, Wis. (November 1957), pp 304-310.

This article deals almost entirely with the economic development of Thailand.

- G123-01-05-X0      Kuhn, Isobel, North Thailand; the Golden Crime. China Inland Mission, London, England, 1954, 31 pp.

Not available for review.

- G124-01-03-XV      Ladejinsky, W. I., "Thailand's agricultural economy." Foreign Agriculture, vol 6, No. 5, Washington, D. C. (May 1942), pp 165-184, maps.

The author discusses the weaknesses of the Thai agricultural economy and refers to individual crops, production, farm methods, acreage, yield, and exports. A small map shows areas of rice cultivation. Lesser crops mentioned are cotton, tobacco, pepper, coconuts, and rubber.

- G125-01-03-X0      Lamington, Lord, "A journey in Indo-China." Queensland Geographical Journal, vol 15 (New Series), No. 1, Brisbane, Queensland (1900), pp 1-18, map.

Brief general descriptions are given for topography, vegetation, and villages along a route from Chiang Mai to Haiphong, North Vietnam. Two small-scale route maps are included.

- G126-01-03-XL      Lamington, Lord, "Journey through the Trans-Salwin Shan States to Tong-King." Proceedings of the Royal Geographical Society and Monthly Record of Geography, vol 12, No. 13, London, England (December 1931), pp 701-722, map.  
 LC  
 G7  
 .R9

The author presents an excellent qualitative description of the terrain traversed, but unfortunately the only segment falling in Thailand is from Chiang Mai north to the border. A route map accompanies the report.

- G127-01-03-X0      Landon, Kenneth Perry, Siam in Transition. Kelly and Walsh, Shanghai, China, 1939, 328 pp.  
 LC  
 DS584  
 .L3

This book, which is the same as Thailand in Transition, surveys the cultural trends in the five years following the revolution of 1932.

- G128-01-03-X0      Landon, Kenneth Perry, Thailand in Transition. Chicago University Press, Chicago, Ill., 1939, 328 pp.  
 SEE: Siam in Transition by the same author.

- G129-01-03-X0      Landon, Kenneth Perry, "Thailand." Annals of Academy of Political and Social Science, Southeastern Asia and the Philippines, vol 226 (March 1943), Philadelphia, Pa., pp 112-119.

This article briefly discusses races, government, social services, communications, agriculture and business, finance, military, and foreign policy.

- G130-01-03-X0      LeMay, Reginald Stuart, An Asian Arcady; the Land and Peoples of Northern Siam. Cambridge, England, 1926, 274 pp, maps.  
 LC  
 DS565  
 .L4

This book is divided into parts on history of the Thai people from the 7th century to the present, topography, ethnology, and travel in the region from Lampang north.

- G131-01-03-X0      LeMay, Reginald Stuart, "A visit to Sawankalok." Journal of Siam Society, vol 19, Part 2, Bangkok, Thailand (1929). pp 63-82, illus.  
 LC  
 DS561  
 .T5

This paper gives a brief cultural description of parts of Satchanalai and detailed information on a temple and old pottery kilns.

- G132-01-03-X0      Life and Rand McNally Editors, Life Pictorial Atlas of the World. Time Incorporated, New York, N. Y., 1961, 600 pp, illus, maps.

This atlas contains excellent photographs, maps, and thumbnail sketches of all countries. The Thailand portion has no photographs and is included in small-scale maps of Southeast Asia showing physical features, economic and agricultural products, and areas of rice cultivation and river basins. The country sketch gives an area of 198,404 square miles; a population of 22,003,000; Bangkok as the capital and largest city; a climate of little seasonal change in temperature, cooler in mountains; heavy summer rainfall, and dry winters; the highest elevation (Doi Angka at 8412 ft); and 50 percent of the arable land as being planted in rice.

General, Text

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G133-01-05-X0      Lo, Yen-Ku, Feng-Kuang Ming-mei-ti T'ai-kuo. I-mei T'u-shu Kung-ssu,  
Hong Kong, 1959, 198 pp. (In Chinese.)

Not available for review.

G134-01-05-X0      Low, Capt., Journal of the Royal Asiatic Society of Bengal. Vol 7, Part  
2, Calcutta, India, 1838.

LC  
AS472  
.C2195

Not available for review.

G135-01-03-XL      Lyde, Lionel William, The Continent of Asia. Macmillan and Co., Limited,  
London, England, 1933, 777 pp, maps.

LC  
DS9  
.L9  
1933

The description of Southeast Asia in pages 492-536 treats the climate, food, topography, and physical history of that area including the Irrawaddy and Mekong River basins on west and east. Four physiographic divisions in Thailand (pp 513-520)--northern hills, eastern basin, central plain, and southern isthmus--are described with the most detailed information being for the central plain.

G136-01-03-X0      MacGregor, John, Through the Buffer State, a Record of Recent Travels  
Through Borneo, Siam, and Cambodia. F. V. White and Co., London, England,  
1896, 290 pp, map.

LC  
DS507  
.M14

This travel account contains descriptions of places and people but topographic and climatic data are lacking.

G137-02-03-XL      Madrolle, Claudius, The Madrolle Guides, Indochina. Societe D'Editions  
Geographiques, Maritimes et Coloniales, Paris, France, 1939, 280 pp,  
illus, maps.

AMS  
DS525  
M19

General information on geography, climate, history, ethnography, religion, festivals, language, monuments, and government in Indochina and Siam is supplemented by detailed descriptions of scenes and populated places along particular routes. A map at scale 1:2,500,000 covers the region eastward from near longitude 100°E with respect to roads, railroads, towns, drainage, and contours at 100, 500, 1000, 1500, and 2000 meters.

G138-01-05-X0      Mandrykin, Yu G., Thailand Ekonomika i Vneshnyaya Torgovlya. (Thailand  
Economy and Foreign Trade.) Vneshtorgizdat, Moskva, 1959, 166 pp. (In  
Russian.)

AMS  
HC497  
T3427

Not available for review.

G139-01-05-X0      Martins, Rufino Francisco, Description of the Kingdom Thai or Siam,  
Containing an Account of its Topography, etc. Celestial Empire Office,  
Shanghai, China, 1877.

Not available for review.

G140-01-04-X0      Mason, John Brown, and Parish, H. Carroll. Thailand Bibliography.  
 USDS      University of Florida, Gainesville, Fla., 1958, 247 pp.  
 Z336  
 M3

The 2300 items in nine Western languages pertain largely to historical and cultural works.

G141-01-03-X0      May, Jacques Meyer, Thailand. 2d ed, Nelson Doubleday, Inc., Garden City,  
 LC      N. J., 1962, 64 pp, illus, map.  
 DS566  
 .M3  
 1962

This book, prepared for the tourist, is illustrated with some excellent hand-mounted color photographs. The major topics of discussion are routes of entry, Bangkok, people and culture, language, ways of life, food, religion, and major places of interest.

G142-01-05-X0      McCarthy, James, Report of a Survey in Siam in 1894. Printed for private  
 circulation, London, England, 1895, 374 pp.

Not available for review.

G143-01-03-XLSVHC      McCarthy, James, Surveying and Exploring in Siam. J. Murray, London,  
 LC      England, 1900, 215 pp, charts, maps.  
 DS565  
 .M12

In addition to the survey information collected, detailed descriptions of cultural features and terrain that were of interest to the author are presented. The following facts are included. The river bed at Raheng is over 200 ft across but in the dry season its sand banks flank a bed that is nearly dry. On the peninsula near Ta-Sap, a small, steep-sided limestone hill surrounded by a lake a few feet deep contains caves. On the Khorat Plateau, the following phenomena occur: the country is very flat from Tachang to Pimai; outside Pimai there are water marks on trees at 4 ft above ground; wide salt waste occurs outside Pu Thai Song; near Aunwapi the terrain is particularly flat and devoid of trees; at Nawng Kai on Me Nam Kawang the channel width is 1000 yd and lowest discharge is 48,000 cubic feet per second. Two triangulation maps are inclosed.

G144-01-05-X0      McCune, Shannon, Geographical Aspects of American Interest in Southeast  
 Asia. Monograph, A/10, Colgate University, Hamilton, N. Y., 1952 (1).

Not available for review.

G145-01-04-X0      McVey, Ruth T., Bibliography of Soviet Publications on Southeast Asia  
 as Listed in the Library of Congress Monthly Index of Russian  
 LC      Acquisitions. Data Paper No. 34, Southeast Asia Program, Department of  
 Z3221      Far Eastern Studies, Cornell University, Ithaca, N. Y., March 1959,  
 .M2      109 pp.

This bibliography contains books and articles relating to the social sciences. Ten English language periodicals are included with the Russian language articles, and these English language periodicals represent about 30 percent of the entries. A few of the Russian language works do have English summaries.

General, Text

G146-01-03-X0

Mills, Lennox A., ed., "Southeastern Asia and the Philippines." Annals of American Academy of Political and Social Science, vol 226, Philadelphia, Pa. (March 1943), pp 1-150.

This collection of papers treats in a general way the subjects geography, markets, capital investment, the Chinese, Japanese foreign policy, and war in the region. Individual articles of this group are listed separately where appropriate.

G147-01-03-X0

Mills, Lennox A. and Associates, The New World of Southeast Asia. University of Minnesota Press, Minneapolis, Minn., 1949, 445 pp.

LC  
DS903  
.4  
.M9

This symposium on the historical, political, and economic developments in the countries of Southeast Asia emphasizes the relations of prewar events and the occupation by the Japanese to current situations.

G148-01-03-X0

Mitchell, Kate, "Thailand - a new key area." Amerasia, vol 5, No. 2, New York, N. Y. (November 1941), pp 381-389.

This article discusses Thailand's strategic values and its role in international politics, agriculture, industry, and raw materials.

G149-01-03-X0

Moore, W. Robert, "Land of the free in Asia." National Geographic Magazine, vol 65, No. 5, Washington, D. C. (May 1934), pp 531-576, illus.

This general interest article emphasizes culture in Thailand with the aid of photographs.

G150-01-03-X0

Moore, W. Robert, "Scintillating Siam." National Geographic Magazine, vol 91, No. 2, Washington, D. C. (February 1947), pp 173-200, illus, map.

This article is written in the same vein as Moore's earlier one, "Land of the free in Asia," which emphasizes culture and people. Numerous photographs are included.

G151-01-03-X0

Moore, W. Robert, "Thailand bolsters its freedom." National Geographic Magazine, vol 119, No. 6, Washington, D. C. (June 1961), pp 811-849.

This article gives a good general view of the country with emphasis on economics and politics.

G152-01-03-X0

Morgenthauer, Hans C., Matahari - Impressions of the Siamese-Malayan Jungle. Doran, New York, N. Y., 1923, 240 pp.

LC  
DS968  
.M6

This narrative pictures life in the villages of the Southwestern Thailand.

G153-01-03-X0

Mouhot, M. Henri, Travels in the Central Parts of Indo-China, Cambodia, and Laos. John Murray, London, England, 1864, 604 pp, illus, maps. (In 2 volumes.)

LC  
DS524  
.M92



Volume 2 (volume 1 not examined) describes natural conditions, wildlife, and vegetation at the Angkor ruins, which the author discovered, and along the route from there to Bangkok, to Khorat, and northward to Luang Prabang. Appendixes contain personal letters, a Cambodian vocabulary, a list of wildlife, and translations of fables of the land.

G154-01-03-X0 Na Chiengmai, Kavila, "By car to Chiengmai." Standard, No. 194, Bangkok, Thailand (September 16, 1950), pp 11 and 19, illus, map.

This article describes road conditions encountered on the first successful traverse of a composite route between Bangkok and Chiang Mai. The route, composed of roads completed and under construction, service tracks, and local or logging tracks, is 867 kilometers long and requires 42 hours to traverse. Two photographs show road sections and a small-scale route map is included.

G155-01-05-X0 Neale, F. A., Narrative of a Residence in Siam. London, England, 1852.

LC  
DS566  
.N34

Not available for review.

G156-01-05-X0 Nisbet, H., Experiences of a Jungle - Wallah. Fisher-Knight, London, England, 1936, 96 pp.

Not available for review.

G157-01-03-X0 Nivat, Dhani, "Ayudhya." Standard, No. 378, Bangkok, Thailand (March 27, 1954), p 12.

LC  
AP8  
.S7

This note describes the city of Ayudhya and its historic ruins.

G158-01-03-X0 Norman, Henry, The Peoples and Politics of the Far East. T. Fisher Unwin, London, England, 1895, 608 pp, illus, maps.

LC  
DS507  
.N83

This book is the result of personal observations and communications of the author in the countries covered, which include Thailand. The various countries political policies and the role England should play are heavily emphasized.

G159-01-05-X0 Nunn, Janet, Bibliography on the Far East. Special Circular No. 44-(51), U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce, Director of Regional Information, Washington, D. C., 1927.

Not available for review.

G160-01-03-XLSVHC Nuttonson, M. Y., The Physical Environment and Agriculture of Thailand. American Institute of Crop Ecology, Washington, D. C., 1963, 256 pp.

This report on crop ecology begins with descriptions of Thailand's political divisions, geography, weather, drainage, and agriculture. An extensive section on climate is supplemented by 44 tables of temperatures and precipitation for the larger cities. Information on drainage, river stages, floods, and irrigation projects is less extensive. Another section describes forests according to preferred climate: evergreen rain, true monsoon, monsoon dry, pine-oak mixed, grass

General, Text

swamp forest, and coastal vegetation. Discussions of soils and land utilization are supplemented by charts and graphs. The physical and chemical properties of soils are presented along with their distributions. Other topics dealt with include: the economic classification of the forests; general agriculture, various agricultural study projects; particulars on farm crops, livestock, aquatic resources; markets, etc. A bibliography lists 173 items.

G161-01-03-XO                      Outram, Frank, "Post-war Siam." The Geographical Magazine, vol 20, No. 4, London, England (August 1947), pp 140-149, illus.

LC  
G1  
6343

The author gives a first-hand view of the country's outlook immediately after the war. Very brief information is included concerning the history, culture, and future of the country. Several photographs illustrate the article.

G162-01-03-XLSVHC                      Pacific Science Congress, 9th, Bangkok, Thailand, Thailand, Past, and Present. Bangkok, Thailand, 1957, 193 pp, map.

AMS  
DS563  
P11

The report treats a variety of subjects of which those mentioned below may have some value in environmental studies. Drainage and major features are described for each of four sections of Thailand. Humidity, precipitation, winds, etc., are considered under climate. The section on forest resources emphasized commercial aspects of tropical evergreen, hill evergreen, coniferous, mangrove, deciduous dipterocarp, and mixed deciduous forests. The section on agriculture describes types of crops, farming methods, and production, in addition to containing an article on the soils of Thailand by R. L. Pendleton. Among other sections there are treatments on geology, mineral resources, water resources, and irrigation.

G163-02-03-XO                      Parkes, Harry, "Geographical notes on Siam, with a new map of the lower part of the Menam River." Journal of Royal Geographic Society, vol 26, London, England (1856), pp 71-78, map.

This article is written primarily to support a map which was not included in the reviewed copy. The author lays some groundwork for the map by discussing the overall geography of the country and those areas over which it holds jurisdiction. The map is described as probably possessing all geographical knowledge available on the lower part of the Menam Chao Phraya. It is at a scale of 1:126,720 and embraces approximately 2 deg of latitude and longitude. Covering the river from 12 miles north of Lopburi southwards to the gulf and the courses of the Bang Pakong, Prachia Buri, and Mae Klong Rivers for a considerable distance. Many of the canals are shown and 16 towns and 305 temples outside towns of known geographical locations are included though the main interest is in the great river. The article is concluded by brief descriptions of Bangkok and Ayuthia.

G164-01-05-XO                      Pasqual, J. C., Trip Through South Siam. Penang Gazette Press, Penang, Malaya, no date, 86 pp, illus.

Not available for review.

G165-01-04-XO                      Pelzer, Karl Josef, Selected Bibliography on the Geography of Southeast Asia. Part 1, Southeast Asia - General, Southeast Asia Studies, Yale University, New Haven, Conn., 1949, 45 pp.

LC  
Z3221  
ph

This multilingual bibliography contains references on a wide variety of subjects including bibliographies; periodicals and symposia; popular and scientific travel; nature, with subtopics of climate, geology, oceanography, and soils; man; economy; state; regional geography; and publications of Yale University's Southeast Asia Studies. The bibliography is general and does not include any references on Thailand as an individual country.

G166-01-03-X0

Pelzer, Karl Josef, Pioneer Settlement in the Asiatic Tropics: Studies in Land Utilization and Agricultural Colonization in Southeastern Asia. Special Publication No. 29, American Geographical Society of New York, N. Y., 1945, 290 pp, illus, maps. (Study made in cooperation with Institute of Pacific Relations for a report in its International Research series.)

Although the book covers all MERS countries, the major part is on the Philippines and the Netherland Indies, where, due to the war, the author's field work was confined.

Subject matter is directed toward agricultural colonization and land use, including descriptions of agricultural methods, production, population density, and crops. Numerous tables, maps, and photographs are included, many of them reproduced from other sources. A 12-page bibliography concludes the book.

This agricultural material is of no use to a quantitative terrain program, and in addition, little of the information pertains to the MERS countries.

G167-01-03-X0

Pendleton, Robert Larimore, "Agricultural education and research in Southeast Asia." Malayan Journal of Tropical Geography, vol 1, Singapore (October 1953), pp 49-56.

This paper discusses problems and methods in agricultural education and research.

G168-01-05-X0

LC  
DS561  
.T5

Pendleton, Robert Larimore, "Impressions of Doi Pulanka and the Miao's new year, from the camera and notebook of an agriculturist." Journal of the Siam Society, vol 37, Part 2, Bangkok, Thailand (1949), pp 144-148.

Not available for review.

G169-01-03-X0

LC  
DU1  
.F3

Pendleton, Robert Larimore, "Land use in Southeast Asia." Far Eastern Survey, vol 16, No. 3, New York, N. Y. (February 12, 1947), pp 25-29.

A brief discussion presents the effects of landholding and cultivation practices on the social and economic conditions in India, Siam, South China, Malaya, the Netherlands Indies, and the Philippines.

G170-01-03-X0

LC  
DU1  
.P13

Pendleton, Robert Larimore, "Land utilization in Southeastern Asia." Pacific Affairs, vol 19, No. 1, New York, N. Y. (March 1946), pp 101-108.

This is a review of a book by Karl Josef Pelzer entitled Pioneer Settlement in the Asiatic Tropics: Studies in Land Utilization and Agricultural Colonization in Southeastern Asia. The reviewer calls attention to the inaccurate and inadequate sources relied on and discusses individual chapters. Personal observations are mixed with criticism and summaries of this book. If Pendleton's descriptions are correct, it is doubtful that this book, dealing with general agriculture, could be of value.

GI71-01-03-XLSVHC

Pendleton, Robert Larimore, Thailand, Aspects of Landscape and Life.  
Duell, Sloan, and Pearce, New York, N. Y., 1962, 331 pp, illus, maps.

AMS  
GB306  
P39

This thorough treatment of Thailand and its natural features covers the subjects: physiography and geology; soils, natural vegetation, and animal life; climate and water economy; the agrarian landscape; utilization of forests and mineral deposits and their development; power, industrial potential, and manufacturing; and transportation, communication, and trade.

Five physiographic divisions are distinguished by characteristic internal landforms and to some extent by similarities in climate, mineral resources, land use and agriculture, historical development, and in other respects. The discussion of geology is largely from U. S. Geological Survey Bulletin 984 by G. F. Brown and under soils the author presents a condensation of his earlier work. Twenty-one soils groups are described. The extent and characteristic environment of the various species of vegetation are described for the three types of forest vegetation (evergreen forest, moist monsoon forest, and monsoon dry forest) that cover approximately 75 percent of Thailand.

GI72-01-03-X0

Praja-Kitkarachakr. P. "On the Monas Mun and the provinces in the east."  
Journal of Siam Society, vol 1, Bangkok, Thailand (1904), pp 175-190.  
(In Thai.)

LC  
DS561  
.T5

General headings in English include geographical position, nature of the river, boats and vehicles used, towns and their history, and homes and livelihood.

GI73-01-05-X0

Pringle, Richard, Report on Land Development in Thailand. U. S. Mutual Security Agency, Washington, D. C. (?), n.d.

Not available for review.

GI74-01-04-X0

Pritchard, Earl H., ed., "Far Eastern bibliography 1941." Far Eastern Quarterly, vol 1, No. 2 (February 1942), pp 207-227; vol 1, No. 3 (May 1942), pp 313-330.

DIA/DL  
EIF  
35,361

Most references concern China and Japan and the conflict between them. General references on Southeast Asia are included but emphasis is on the political and cultural aspects.

GI75-01-04-X0

Pritchard, Earl H., ed., "Far Eastern bibliography 1942." Far Eastern Quarterly, vol 1, No. 4 (August 1942), pp 421-443; vol 2, No. 1 (November 1942), pp 117-135; vol 2, No. 2 (February 1943), pp 227-246.

Not available for review.

GI76-01-03-X0

Purachattra, Prem, "A modern miracle at Phrabat." Standard, No. 481, Bangkok, Thailand (March 17, 1956), pp 14 and 28; No. 482, Bangkok, Thailand (March 24, 1956), pp 10 and 27, illus.

LC  
AP8  
.S7

GI77-01-03-X0

Purachattra, Prem, "The Jainad Dam." Standard, No. 528, Bangkok, Thailand, (February 9, 1957), pp 11, 15, and 24; No. 530, Bangkok, Thailand (February 23, 1957), p 11, illus.

LC  
AP8  
.S7

This is an account of the formal opening of the Chao Phya Dam in 1952.

This article reviews the success of a homesteading project near Sara Buri.

G173-01-03-XO Parachatra, Prem, "Northern heaven " Standard, No. 487-492, Bangkok,  
LC Thailand (April 28, May 5, 12, 19, 26, June 2, 1956), v. p., illus.  
APR  
.S7

The article describes a trip to Chiang Mai and a nearby shrine.

G179-01-05-XO Parachatra, Prem, World Tour. Part 1, Chatra Books, Bangkok, Thailand,  
1952, 226 pp.

Not available for review.

G180-01-04-XO Quan, L. King, Introduction to Asia, A Selective Guide to Background  
AMS Reading. U. S. Library of Congress, Washington, D. C., 1955, 214 pp.  
Z3001  
Q1

There are 611 annotated items in this general bibliography. Major sections on Asia, the Far East, South Asia, the Near and Middle East, and Southeast Asia are subdivided by country.

G181-01-03-XO Quate, Graham S., The Agriculture of Thailand. Unpublished, Bangkok,  
Thailand, May 23, 1952, 16 pp.

SEE: U. S. Air Force, Military Attaché, Bangkok, Thailand, The Agriculture of Thailand, unpublished, Bangkok, Thailand, May 23, 1952, 16 pp.

G182-01-03-XO Quate, Graham S., "Petch barrage." Foreign Agriculture, vol 14, No. 9,  
LC Washington, D. C. (September 1950), pp 199-204, illus.  
HD101  
.F6

The author, Agricultural Attaché in Bangkok, Thailand, describes the terrain in general terms from Bangkok to the Petchburi area where he attended the dedication ceremonies for the Petch Division Dam. The dedication ceremony is described in detail as well as his conversations with two officials who made the trip with him.

G183-01-03-XO Rachathon, Anuman, The Life of the Farmer in Thailand. (Translated by  
LC William Gedney, Southeast Asia Studies, Translation Series), Yale Univer-  
G8191 sity, New Haven, Conn., 1955, 60 pp. illus.  
RS5A77

This book presents a detailed description of a year in the Thai farmer's life, including the social, religious, and familial activities. The author is very precise in his descriptions.

G184-01-03-XO Rajanulhab, Damrong, and Seidenfaden, Eric, Siam Guide Book.  
LC Hang Pa-In, Ayudhya, and Lop Buri. Bangkok Times, Bangkok, Thailand,  
BS566 August 1930, 43 pp.  
.S5

A sketch of Thailand's history precedes descriptions of the principal sights of the four cities.

General Text

G185-01-03-XO      Ramiah, K., "Fertilizer use for increased rice production." International Rice Commission News Letter, No. 10, Bangkok, Thailand (June 1964).  
MSDA  
50.9      pp 1-9.  
In83R

Fertilizer needs and procedures are discussed for Ceylon, Taiwan, India, Japan, Malaya, Pakistan, Philippines, and Thailand. General statements are made concerning the types of fertilizers used and expected results.

G186-01-03-XO      Rand, Christopher, "Siam." Holiday, vol 12, No. 4, New York, N. Y. (October 1955), pp 48-53.

This popular article describes tourist attraction throughout Thailand.

G187-01-03-XO      Rawson, Robert Rees, The Monsoon Lands of Asia. Hutchinson, London, England, 1963, 256 pp, illus, maps.  
LC  
DS10  
.R3  
1963

This book, divided into two parts, first discusses structure and relief, climate, vegetation, soils, geography, agriculture and manufacturing and follows with chapters describing individual geographic areas. The area on Southeast Asia is 27 pages long and covers all MERS countries separately. Their descriptions are confined mainly to land utilization and natural resources. As a whole the book is not specific or detailed enough to be of benefit to a quantitative terrain analysis program.

G188-01-03-XO      Raymond Construction Corporation, Monthly Progress Reports. Bangkok, Thailand, June 1957-1960, v. p., photos.  
DIA/DL  
EIF  
309,199

These reports describe progress in the various phases of highway construction. For engineering progress see other references by Charles Upham and Associates and Overdrup and Parcel Engineering Company.

Subjects covered are clearing, earthwork, roadway, drainage structures, and batching plants.

G189-01-03-XO      Robbins, L. J., "A journey in central Siam." Geographical Journal, vol 74, No. 5, London, England (November 1929), pp 434-450.  
AMS  
G1  
.G34  
v.74

This is a travel log of an overland journey from Phitsanulok to Ize Sak. Vegetation and terrain are treated generally.

G190-01-03-XO      Robbins, L. J., "Hill routes between Phitsanulok and Ize Sak." Journal of Siam Society, vol 22, Part 2, Bangkok, Thailand (1928), pp 81-109, illus, map.  
LC  
DS561  
.T5

This paper is similar to "A journey in central Siam" by the same author.

G191-01-03-XO      Robertson, C. J., "The rice export from Burma, Siam, and French Indo-China." Pacific Affairs, vol. 4, No. 2, Camden, N. J. (June 1920), pp 243-253.  
 LC  
 DU1  
 .P13

This article gives production and export statistics, crop damaging factors, and plans for increasing production, quality, and export.

G192-01-03-XO      Rock, Joseph F., "Hunting the Chaulmoogra tree." National Geographic Magazine, vol. 41, No. 3, Washington, D. C. (1922), pp 242-276, illus., maps.  
 WES  
 G1  
 N3

Photographs supplement general descriptions of people, culture, physical features, and architecture encountered on a trip which crossed much of Thailand and Burma.

G193-01-03-XO      Rujee (pseud.), "Hua Hin, 1951." Standard, No. 27, Bangkok, Thailand (May 2, 1951), p 11.  
 LC  
 AP8  
 .S7

This is a brief description of the resort city of Hua Hin.

G194-01-03-XO      Sakamaki, Shunzo, and White, John A., Asia. Webster Publishing Co., St. Louis, Mo., 1953, 528 pp, illus, maps.  
 LC  
 DS9  
 .328

This book examines China, Southeast Asia, India, and Japan in order to point out problems faced by the populace. Following a review of the historical background, the major regions are subdivided and the history, culture, and economics of individual countries are presented.

G195-01-03-XO      Sarasas, Phra, My Country Thailand. Maruzen Co., Tokyo, Japan, 1951, 421 pp.  
 LC  
 DS571  
 .S3

Sections on history, geography, and civilization are supplemented by appendixes. Short résumés on physiographic regions, forestry, and mining fall short of the requirements of a quantitative study.

G196-01-03-XO      Sarasas, Phra, My Country Thailand, Its History, Geography, and Civilisation. 5th ed, C. Chakrabandhu, Bangkok, Thailand, 1956, 191 pp.  
 LC  
 4DS  
 1183

The historical section of this book is the largest and gives a detailed sequence from 400 BC to 1932 AD. The geographical portion discusses physical features and communications and transports in general terms. The civilization section deals with populace characteristics, government, and customs and habits.

G197-01-03-XO      Schomburg, Robert H., "A visit to Xiengmai, the principal city of the Laos or Shan States." Journal of Royal Asiatic Society of Bengal, vol 34, Calcutta, India (1863), pp 387-399.  
 LC  
 AS472  
 .U2155

Segments of a travel route extending from Bangkok to the Burmese coast and back are described in this article. The route followed upriver to Chiang Mai and then west, reentering Thailand east of Tavoy.

G198-01-03-X0 Schomburg, Robert H., "Xiangmai." Siam Repository, vol 1, Bangkok, Thailand (1869), pp 173-182.

SEE: "A visit to Xiangmai, the principal city of the Laos or Shan States," by the same author.

G199-01-03-X0 Seidenfaden, Eric, "An excursion to Lop Buri." Journal of Siam Society, vol 15, Part 2, Bangkok, Thailand (1922), pp 66-77, illus.

LC  
DS561  
.T9

Numerous photographs illustrate this paper on the city's history and sights.

G200-01-03-X0 Seidenfaden, Eric, Guide to Bangkok, with Notes on Siam. Siam Royal State Railways Department, Bangkok, Siam, 1927, 320 pp.

AMS  
DS589  
B21S4

As the title indicates, this is mainly a traveler's guide to Bangkok with only a small part (pp 285-317) being devoted to general description of Siam.

G201-01-03-X0 Seidenfaden, Eric, Guide to Petchaburi. Siam Royal State Railways, Bangkok, Siam, 1931, 54 pp, illus, maps.

LC  
DS589  
.P4S4

This guide book contains a brief historical sketch of Petchaburi and the surrounding country, describes the railway trip from Bangkok, and gives detailed descriptions of the Petchaburi sights. Two small-scale maps are included, which show the railway line from Bangkok and a plan of Petchaburi.

G202-01-03-X0 Sharp, Lauriston, Hauck, H. M., Janlekha, K., and Textor, R. B., Siamese Rice Village, a Preliminary Study of Bang Chan, 1948-1949. Cornell University Research Center, Bangkok, Thailand, December 1953, 300 pp.

AMS  
HD940  
C81

This report presents results of a study of social and psychological effects of modern technology and science on the Bang Chan community near Bangkok. Accompanying tables present data on population, farm size, and economics.

Siam

SEE ALSO: Thailand

G203-01-03-X0 Siam Publicity Department, Modern Thailand. Bangkok, Thailand, 1951 (?), 44 pp.

USDA  
127  
S112

Various aspects of Thai life are examined in general terms.



G204-01-03-X0 Siam Royal Railway Department, Thirty Eighth Annual Report on the Administration of the Royal State Railways (April 1, 1934 - March 31, 1935).  
 LC  
 HE3309 Royal Siam Railway Printing Office, Bangkok, Thailand, 1936, 51 pp, illus.  
 .B5A2

This report covers financial results; floods, washouts, and accidents; maintenance; construction; electric telegraph, telephone, and signaling; and rolling stock construction and repairs. Detailed tables give figures for a variety of statistics, revenue, receipts, etc. A map of existing railroads is included.

G205-01-03-X0 Siam Royal Survey Department, Report (abbreviated) Prepared for the Section of Terrestrial Magnetism and Electricity on the Operations Carried Out in Siam up to the 31st of December 1923. Bangkok, Thailand, June 1924, 7 pp, maps.  
 AMS  
 QB296  
 T3T37

This is a résumé of the accomplishments in terrestrial magnetism and electricity from its first application in 1907 until 1923. Sections are on base lines and triangulation, latitudes, longitudes, azimuths, precise leveling, projections, and terrestrial magnetism. Maps showing triangulation nets, leveling lines, and magnetic stations are presented at a scale of 1:5,000,000.

G206-01-03-X0 Siam Royal Survey Department, Report of Progress on the Geodetic and Magnetic Operations Carried out by the Royal Survey Department of Siam, Period 1 January 1924 - 31 December 1926. Bangkok, Thailand, 1928, 7 pp, maps.

This report reviews progress on base lines, triangulation, latitudes, longitudes, azimuths, and terrestrial magnetism; and it emphasizes future work. Maps show progress on the various activities.

G207-01-03-X0 Siam Royal Survey Department, Report on the Operations of the Royal Survey Department Ministry of Defence for the Years 1922-1955. Bangkok, Thailand, various dates, various pages.  
 AMS  
 GA71  
 T3T36

This series of progress reports contains for each volume a general section concerned with administration, costs, support facilities and operations, etc., and specific sections on the primary operations of the Department for the preceding year. Progress and current status of work in the fields of triangulation, topographic mapping, earth magnetism, and precision leveling are summarized. Survey notes on particular parts of the country in which recent work has been concentrated are included. Titles of volumes appearing between 1922 and 1955 vary slightly.

G208-01-03-X0 Skeat, Walter William, "Report on the Cambridge exploring expedition to the Malay Provinces of Lower Siam." Journal of the Royal Anthropological Institute of Great Britain and Ireland, vol 30, No. 74, London, England (1900), pp 73 and 74.

This is a summation of the original article by Bradford, appearing in the Proceedings of the British Association, 1900. The limits of the exploration in the peninsula are 5°N to 8°N which includes the Thailand provinces of Phatthalung, Songkhla, Pattani, Yala, and Narathiwat. The majority of the exploration is confined to major lakes and waterways, Thale Noi, Thale Luang, Klong Pattani, Sungai Kelantan, and Sungai Muda. The descriptions are limited to anthropological interest with little being said of the natural features.

General, Text

- G209-01-03-X0 Smith, Helen L., "Geographical nomenclature in Siam." Geographical Review, vol 36, Burlington, Vt. (1946), pp 264-269.

AMS  
G1  
.G35

Some of the Thai words commonly used in maps are defined, and a few rules of grammar are included. The language has experienced some Romanization.

- G210-01-05-X0 Smith, Helen L., The Geography of Rice Production in the Menam Plain of Siam. Wheaton College, Wheaton, Ill. (?), n.d., n.p.

Not available for review.

- G211-01-03-XL Smyth, Herbert Warington, Five Years in Siam from 1891-1896. 2 volumes, John Murray, London, England, 1898, 667 pp, illus, maps.

LC  
DS565  
.S65

Volume 1 emphasizes geography with extensive accounts of early exploration along the Me Nam and Me Kawang Rivers. The people and their culture and the trade, communication, and industry of the country are also discussed. Small-scale generalized maps cover the upper Me Kawang River system, the Lao States of northern Thailand, the Me Nam Plain, and the western frontier. Volume 2 is concerned with peninsular Thailand and a part of southeast Thailand which at that time included part of Tonle Sap. Descriptions of the people and their culture and of geography are informative. Of four small-scale maps, one shows boundaries, drainage, spot elevations, routes, and larger towns for the peninsula north of 7°N latitude. Industrial production statistics supplement the text.

- G212-01-03-X0 Smyth, Herbert Warington, "Journeys in the Siamese east coast States." Geographical Journal, vol 11, No. 5, London, England (May 1898), pp 465-492, illus.

This is an account of a trip by water along the coast from Bangkok to Singapore. Descriptions of local history, geography, plant and animal life, navigational problems, agriculture, and weather provide a good general picture.

- G213-01-03-XLS Smyth, Herbert Warington, Notes of a Journey on the Upper Mekong, Siam. John Murray, London, England (published for the Royal Geographical Society), 1895, 109 pp, illus, maps..

LC  
DS565  
.S66

This book presents an account of an extended journey made by the author to check on gem deposits and to gather any geological data available. The route followed was from Bangkok northward to Chiang Khong on the Mekong, down river to Nong Khai, overland to Khorat, and then to Ayutthaya and Bangkok. The author gives very vivid descriptions of the terrain along the journey and of the people encountered and their culture. Many geologic observations are given, and a route map on which geological notes are made is included.

- G214-01-03-XLSC Spencer, Joseph Earle, Asia East by South. John Wiley and Sons, Inc., New York, N. Y., 1954, 453 pp, illus, maps.

LC  
DS5  
.S6

This book, which is one of the better geographies on Asia, is presented in three parts. The first part is a systematic geography of the region as a whole with sections on geomorphology, soils, climate, and cultural features. The second part deals with growth in the individual countries through sections on history, the people, natural resources, natural features, communications,

and cultural aspects. The third section for reference, gives statistics, a bibliography, place-names index, and subject index.

G215-01-05-XO Stamp, L. Dudley, Asia, a Regional and Economic Geography. 9th ed, revised, Methune and Company, Limited, London, England, 1957, 726 pp, illus, maps.  
AMS  
HC412  
S78  
1957

This edition was unavailable for review, but in Introduction to Asia A Selective Guide to Background Reading, U. S. Library of Congress, Reference Department, Washington, D. C., 1955, by L. King Quan the following annotation is given for the 8th edition.

"This standard work on the geography of Asia is a study of the human environment and its influence on the life of man. Since man has, in modern times, altered his environment, the geographical factors are considered not only in the light of their influence on mankind, but also with relation to how mankind has reacted to and altered these influences. The author first gives an account of Continental Asia as a whole, analyzing its geological structure, climate, vegetation, population, and its position in the world. This is followed by regional studies of natural areas and political entities, such as Turkey, Arab Asia, the Iranian Plateau, India and Pakistan, Burma, Ceylon, Southeastern Asia and the East Indies, China, Manchuria, 'the Dead Heart of Asia,' the Japanese Empire, and Asiatic Russia.

More than 300 diagrams and maps are used to illustrate the land and its economic conditions. It shows that many of the political problems of these countries can be explained by their economic geography."

G216-01-03-XO Stamp, L. Dudley, "Siam before the war." Geographical Journal, vol 99, Nos. 5-6, London, England (May-June 1942), pp 209-224.

Although mainly concerned with historical development up to the Second World War, the paper briefly describes general geographical characteristics of the five regions of Siam.

G217-01-03-XO Stanton, Edwin F., Brief Authority; Excursions of a Common Man in an Uncommon World. Harper and Brothers, New York, N. Y., 1956, 290 pp.  
LC  
DS777  
.47  
.S77

This book summarizes 32 years of foreign diplomatic service which began for the author in 1921. Seven years as Ambassador to Thailand are qualifications for a discussion of the country and diplomacy and foreign policy during his tenure of office.

G218-01-03-XO Stanton, Edwin F., "Spotlight on Thailand." Foreign Affairs, vol 33, No 1, Lancaster, Pa. (October 1954), pp 72-85, map.  
LC  
D410  
.F6

This article deals only with the communist threat to Thailand.

G219-01-03-XO Stead, R., "Men against the jungle." Asia, vol 2, Saigon, Vietnam (1952-1953), pp 213-218, 415-420, and 602-609.

This series of articles critically appraises programs proposed by the United Nations Educational, Scientific and Cultural Organization in the fields of trade, economics, education and social reform, and rehabilitation of guerillas.

General, Text

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G220-01-05-XO Stringer, C. E. W., Report of a Journey to Laos State of Nan, Siam. Her Majesty's Stationery Office, London, England, 1888 (?). 9 pp, map.

Not available for review.

G221-01-05-XO Sullivan, Michael, "Archaeology in Thailand today." Archaeology, vol 10, No. 1, Boston, Mass. (Spring 1957), pp 11-17.

LC  
GN700  
.A725

Not available for review.

G222-01-03-XO Sverdrup and Parcel Engineering Company, Monthly Progress Report - East-West Highway and Bridge Replacement Project. Bangkok, Thailand, various dates (1958-60), various pages.

DIA/DL  
EIF  
315,972

These short reports summarize monthly progress in construction in addition to providing information on field surveys, design, foundation, and materials. Anomalous weather and other unexpected circumstances are also described. Most information is presented in abbreviated tabular form, sometimes supplemented by photographs.

G223-01-03-XL Sverdrup and Parcel Engineering Company, Report of Reconnaissance North-east Highway Thailand Road Program Saraburi-Korat-Banphai, prepared for Thailand Ministry of Communications, St. Louis, Mo., November 30, 1954, 37 pp, illus, map.

AMS  
TE113  
T3896

This report discusses the aspects of general features, engineering, construction, and cost. The topography along the proposed route is described in qualitative terms and is the only terrain information included. Graphs and charts illustrate the seven sections of the 309-kilometer highway and give basic road data and construction cost. A small-scale map shows the proposed route.

G224-01-03-XO Sverdrup and Parcel Engineering Co., Report on Reconnaissance Survey for Most Feasible Route Between East-West Highway and Khon Kaen. Bangkok, Thailand, November 1959, 1 p.

DIA/DL  
EIF  
343,585

This short report appraises three alternate choices for a highway route.

G225-01-05-XO Taylor, Bayard, Siam, the Land of the White Elephant. Charles Scribner's Sons, New York, N. Y., 1905 (?).

Not available for review.

G226-01-03-XO Thai Incorporated, The Siam Directory, 1961. Bangkok, Thailand, 1961, various pages. (Mainly in English with some Thai.)

AMS  
DS562  
S56

This is an annual volume listing prominent persons and organizations in the country.

Thailand

SEE ALSO: Siam

G227-01-03-X0

Thailand; Changvads - Amphurs - Amphur-Branches and Inspectors. Unpublished, no date, 3 pp.

AMS  
JS7401  
T37

The various political divisions and subdivisions of Thailand are listed along with the number of inspectors for each. The copy examined had been annotated (in pencil) at a later date as to whether Changvad capitals are supplied with electricity.

G228-01-03-XL

Thailand Central Service of Statistics, Statistical Year Book Thailand. Bangkok, Thailand, 1916-1951, various dates and pages.

LC  
H11781  
.A3

This is an annual book of statistical data in both Thai and English. All aspects of temperature and rainfall, area and population, vital statistics, migration, education, justice, trade, communication, finance, crops, cooperatives, livestock, forestry, mining, employment, banking, price, and irrigation have been tabulated. Some of the data could prove useful.

G229-01-03-XL

Thailand Central Statistical Office, The National Economic Council Bulletin of Statistics. Vol 3, No. 1-3, Bangkok, Thailand, January-March 1954, 58 pp.

DIA/DL  
EIF  
245,454

These numbers are the only ones available from Army Map Service, Defense Intelligence Agency, and the U. S. Library of Congress. They contain statistics on climate, population and vital statistics, labor force, education, currency and exchange, foreign trade, price and cost of living, agriculture, cement, mineral production, electricity and transportation. The climatic data included are confined to Bangkok.

G230-01-03-XL

Thailand Central Statistical Office, Office of the National Economic Development Board, Statistical Year Book for Thailand No. 21, BE 2499 (1956) to 2501 (1958). Bangkok, Thailand, 1961, 550 pp. (In Thai and English.)

AMS  
H11781  
T36  
1956/58

This reference provides an excellent source of numerical data concerning general information, meteorology, population, public health, education, justice, external trade, agriculture, forestry, mining, prices, transport and communications, cooperative movements, and finance. Most of the data fall within the years 1949-1958. The section on meteorology should be of use in environment studies.

G231-01-03-X0

Thailand Committee on Development of the Northeast, The Northeast Development Plan; The Government of Thailand, 1960-66. Bangkok, Thailand, 1961, 129 pp, map.

AMS  
HC497  
T3T37

Methods are discussed for raising the standard of living of the inhabitants of the Khorat Plateau. Projects for implementing the plan fall in the fields of irrigation, transportation and communication, electrification, and industrial and community development.

G232-01-03-XVS

Thailand Department of Commerce, "Botanical Section - report on a tour in Northeastern Siam and French Laos, with an account of a trip from Prachuab to Mergui March B.E. 2474 - June B.E. 2475." The Record, vol 12, No. 4, and vol 13, No. 1. Bangkok, Thailand, first and second quarters B.E. 2476 (1933), pp 317-323 and 36-43.

AMS  
OK364  
T36  
Mar/June  
1932

This article presents an account of a journey from Bangkok to Pu Bia, the highest mountain in the Indochina peninsula south of latitude 20°N. The routes are described by the author relative to vegetation, topography, and interesting sights with a day-by-day account. The descriptions are vivid but qualitative.

For further references on these tours as published in The Record, see Thailand Department of Commerce and Communications, Thailand Ministry of Agriculture and Commerce, Thailand Ministry of Commerce, and Thailand Ministry of Commerce and Communication.

G232-01-03-X0

AMS  
GK364  
T36  
Dec 1928/  
Mar 1929  
Pt 1 & 2

Thailand Department of Commerce and Communications, Report on a Tour in the Provinces of Ranawng, Takuapa, Pang-Nga and Paket (December 19, 1928 - March 16, 1929). Bangkok Times Press, Limited, Bangkok, Thailand, illus, map. Reprinted from The Record, Nos. 38 and 39, Bangkok, Thailand, October 1930 and January 1931, pp 235-246.

This survey covers such subjects as geology, drainage, topography, natural resources, mining, and local color. A route map at a scale of 1:840,336 is included, which shows topography with hachures, and spot locations of vegetative types, towns, drainage, and rock types encountered along the traversed route.

For further references on these tours as published in The Record, see Thailand Department of Commerce, Thailand Ministry of Agriculture and Commerce, Thailand Ministry of Commerce, and Thailand Ministry of Commerce and Communications.

G234-01-03-X0

LC  
F3348  
.A3

Thailand Department of Commercial Intelligence, Commercial Directory of Thailand. 10th annual issue (1949-50), Bangkok, Thailand, 1950, 1683 pp.

This reference contains a wealth of information on the commerce of the country. Subjects dealt with are the Ministry of Commerce, population, weights and measures, airlines, para rubber, minerals, teak forests, fish, import and export control and the issuance of certificate of origin, commercial banking act, foreign trade, railway time tables, rice millers, saw millers, forest concessionaires, tin miners, rubber licenses, customs tariff, banks, diplomatic representatives, members of Thai merchants associations, members of British chamber of commerce, American firms, insurance companies, newspapers, importers and exporters, agents, firms classified by commodity, and addresses of firms.

G235-01-05-X0

Thailand Department of Commercial Intelligence, Thailand Nature and Industry. 3 parts, Thailand Royal State Railways Printing Office, Bangkok, Thailand, 1950, 1951, 1953.

These three parts are reissues of Siam Nature and Industry as issued in 1930 by the Thailand Ministry of Commerce and Communications with minor revisions of the ethnology; physical features, geology, and climate; and flora, fauna, and vegetation sections. Not available for review.

G236-01-03-X0

LC  
DS562  
.T52  
vol 1

Thailand Department of Commercial Intelligence, Thailand Nature and Industry, I, Ethnology. Bangkok, Thailand, May 1950, 37 pp, illus.

The various population elements in Thailand are broadly classified as Negrito, Indonesian, Mon-Khmer, Annamite, Tibeto-Burmese, Thai, Chinese, and Phitong Luang or Yumbri, and are discussed as to origin and present distribution.

G237-01-03-XL

DMF  
9B  
63C  
T32sr

Thailand Division of Agricultural Economics, A Statistical Review of Thai Agriculture, 1954. Bangkok, Thailand, August 1956, 146 pp. (In Thai and English, with maps.)

A concise review is presented in two sections. The first section discusses the overall picture of land utilization, farms and farm families, population distribution, value of products, foreign trade, crop trends, rice, upland crops, irrigation expansion, forests, livestock, fish, Bangkok supplies of fish and meats, and Bangkok prices. The second section supplements the first with statistical tables on products, foreign trade, climate and irrigation, land use, and population. Of note is the statistic that 15.47 percent of Thailand is under cultivation (12.06 percent in rice). The rainfall and irrigation section gives annual rainfall for 1947-54 at four stations in the northern section, four stations in the northeast, eight stations in the central section, and five stations in the south.

G238-01-03-XO

"The Thailand-Indo China border agreement." Oriental Affairs, vol 16, Tokyo, Japan (July 1941), pp 23-26, map.

This account of Japanese mediation of border disputes between France and Siam over the Pak Lay district in the north and a large area in Cambodia includes general geographical descriptions.

G239-01-03-XO

AMS  
JS7401  
L77

Thailand, List of Every Amphur and Sub-Amphur in Every Pharg. Unpublished, no date, 22 pp.

The original work was in Thai but has a direct pencil translation. Phargs three and four, from a total of nine listings, have noted if they are served by air, rail, all-weather or dry season roads, no roads, or the Mekong River.

G240-02-03-XHVC

AMS  
S471  
T3T36

Thailand Ministry of Agriculture, Agriculture in Thailand, Bangkok, Thailand, 1957, 263 pp, illus, maps.

This book contains both general and detailed information on the various fields of agriculture in Thailand. Its purpose is to provide a background for those interested in Thailand's agriculture and potentials for agricultural production. The sections on crop production emphasize rice, aquatic resources, livestock, irrigation, and forestry. The irrigation section discusses the country as a whole in terms of topography, geographical divisions, and rainfall before going into specifics. The more important watersheds, rivers, and drainage areas are tabulated for easy reference. Irrigation is discussed for the Central Plain, northeastern region, and northern region as a whole and for individual projects. The forestry section, as the irrigation section, begins with a general discussion of the country as a whole. The distribution, a listing of species of commercial importance, and economic importance of tropical evergreen, hill evergreen, coniferous, mangrove, deciduous dipterocarp, and mixed deciduous forests are given along with various forestry programs. Statistical data and illustrations are given for each section of the book. Six Thailand Royal Irrigation Department maps, two Thailand Ministry of Agriculture maps, and one Thailand Royal Forest Department map are included and are described in the following paragraph.

The map, "Map of Thailand showing state irrigation projects completed, under construction, and to be carried out in the near future," map no. 31418, is at a scale of approximately 1:5,000,000. It is a reduced copy of a map at a scale of 1:2,500,000 and it shows the location and name of 16 completed projects, 10 projects under construction, and 8 projects to be carried out in the near future. The map also shows geographical divisions, railways, and major towns and drainage, but has no coordinates.

The map, "Map showing depth of flooding of the plain of Central Thailand," map no. 200,000A, is at a scale of approximately 1:1,150,000. It covers the Chao Phraya floodplain from Nakhon Sawan to the Gulf and shows areas above highest flood level, covered only by highest flood, covered by average high flood, flooded each year, and deeply flooded each year. Irrigation

General, Text

tracts, major drainage, and towns are included, but the map has no coordinates.

The map, "Irrigation map showing Chao Phya River projects and other projects in the Central Plain of Thailand," map no. 31434, is at an approximate scale of 1:1,150,000. It covers the flood-plain from Nakhon Sawan to the Gulf and shows the Chao Phya headwork, other headworks, boundaries of completed projects, projects under construction, and proposed projects, and the boundary of the total area affected. The map shows major towns and drainage, but has no coordinates.

The map, "Map showing the quantity of rainfall in rainy season, average between 1903-1953," map no. M00921Y, at a scale of 1:5,000,000 has isohyetal lines of the 500- through 4500-millimeter levels with increments of 500 millimeters. Very little of the country has more than 1500 millimeters of rainfall, with the heaviest concentration being at the southern tip of the Burma border where it reaches greater than 4500 millimeters. Major towns and drainage are shown, but the map has no coordinates.

The map, "Map showing the annual quantity of rainfall, average between 1903-1953," map no. M00920Y, is at an approximate scale of 1:5,000,000. It has isohyetal lines at the 500- through 4500-millimeter levels with increments at each 500 millimeters. Most of the country has less than 1500 millimeters of rainfall, with the heaviest concentration being along the southern tip of the Burma border where it reaches greater than 4000 millimeters. Major towns and drainage are included, but the map has no coordinates.

The map, "Map of Thailand showing paths of various rain carrying winds during rainy season," map no. 26808, is at a scale of 1:5,000,000. It shows the paths of typhoons coming from the south-east during May through November, monsoons from the southwest for May-October, Bengal cyclones from the southwest during May and June, and convectional track entering from the Gulf during March to April. Major towns and drainage are included, but the map has no coordinates.

The map, "Farm Experiment Stations," at an approximate scale of 1:8,500,000, shows locations of farm experiment stations, major provincial capitals, and drainage, but it has no coordinates.

The map, "Map of Thailand showing location of tanks completed and to be completed in 1955," map no. 31417, is at an approximate scale of 1:5,000,000 and shows locations of tanks completed and to be completed, railways, state highways completed and proposed, and major towns and drainage. This map has no coordinates.

The map, "Forest types of Thailand," at a scale of 1:10,000,000, shows the distribution of evergreen, coniferous, deciduous dipterocarps, mixed deciduous, and mangrove forests and savannas. Major towns and drainage are shown and the map has 3-deg coordinates beginning with 7°N and 96°E.

The maps included in this book are very similar to the ones in Thailand and Her Agricultural Problems issued by the United Nations Food and Agriculture Organization, National Committee, Thailand Ministry of Agriculture.

G241-01-03-XO      Thailand Ministry of Agriculture, Annual Report for the Years 1948-1950  
LC                      to the Food and Agriculture Organization of the United Nations, Bangkok,  
GPRR                      Thailand, various dates, various pages.

The yearly publications for 1948, 1949, and 1950 were examined and all have essentially the same content. The report presents a general outlook for agricultural economy, progress made in various programs, and future plans. The discussions are usually supported by statistics, but the report contains no quantitative terrain data.

G242-01-03-XSV      Thailand Ministry of Agriculture and Commerce, Report on a Tour in the  
AMS                      Circles of Nakon Rajasima and Udon, June-July B.E. 2475. The Bangkok  
QK364                      Times Press, Limited, Bangkok, Thailand, July 1932, 6 pp, illus, re-  
T36                        printed from The Record, vol 12, No. 3, Bangkok, Thailand, July 1923,  
June/July                pp 209-214.  
1932

This report covers two provinces in the Khorat Plateau, Nakhon Ratchasima and Udon Thani. General descriptions are given for soils, roads, local products, agriculture, and vegetation along the traveled route. Botanical names are given for most plants mentioned. The Udon Province is generally described as being predominately Pa-deng and paddy.

For further references on these tours as published in The Record, see Thailand Department of Commerce and Communications, Thailand Department of Commerce, Thailand Ministry of Commerce, and Thailand Ministry of Commerce and Communication.



G243-01-03-XSV

AMS  
QK364  
T36  
Jan/Mar  
1931  
Pt. 1 & 2

Thailand Ministry of Agriculture and Commerce, "Report on a tour in the provinces of Korat, Chaiyapum, Kawn Ken, Loi, and Petchabun January 19 to March 10, 1931." The Record, vol 12, Nos. 1 and 2, Bangkok, Thailand (July 1932), pp 9-20 and 128-139, illus.

This report covers the provinces of the western highlands of the Khorat Plateau. Subjects included are vegetation, local agriculture, and resources. Topography, soil, geology, transportation routes, drainage, and miscellaneous comments are also included.

For further references on these tours as published in The Record, see Thailand Department of Commerce and Communications, Thailand Department of Commerce, Thailand Ministry of Commerce, and Thailand Ministry of Commerce and Communication.

G244-01-03-XSV

AMS  
QK364  
T36  
July/Sept  
1923

Thailand Ministry of Commerce, "Report of a tour undertaken by the Botanical Section in the circle of Pattani (July-September 1923)." The Record, No. 12, Bangkok, Thailand (April 1924), pp 18-24, map.

The purpose of this tour was to visit the circle of Pattani in the southern part of peninsular Thailand. The information contained is general and covers a variety of subjects: topography, vegetation, local products, and local color. The route map is at a scale of 1:32,000 and shows hachured topography and spot locations of vegetation, culture, drainage, and rock types.

For further references on these tours as published in The Record, see Thailand Department of Commerce and Communications, Thailand Department of Commerce, Thailand Ministry of Agriculture and Commerce, and Thailand Ministry of Commerce and Communications.

G245-01-03-XSV

AMS  
QK364  
T36  
1920/22

Thailand Ministry of Commerce, Report of the Botanical Section, September 1, 1920 to December 31, 1922. Bangkok Times Press, Limited, Bangkok, Thailand, July 1923, 15 pp, map. Reprinted from The Record, Bangkok, Thailand, April and July 1923.

This report concerns a survey of Thailand to determine the location and extent of plants yielding, or likely to yield, economic products. The area covered is northwestern Thailand and the account is in the form of a trip log with several side excursions. The vegetation description is fairly detailed for that encountered on either side of the trail, and fair descriptions are given for general terrain, with detailed descriptions given for spot localities. The route map accompanying this report also has an AMS call number of 5L-2-12-36301-1.000.

For further references on these tours as published in The Record, see Thailand Department of Commerce and Communications, Thailand Department of Commerce, Thailand Ministry of Agriculture and Commerce, and Thailand Ministry of Commerce and Communication.

G246-01-03-XSV

AMS  
QK364  
T36  
Sept/Oct  
1924

Thailand Ministry of Commerce, "Report on a tour of the Botanical Section in the Island of Kaw Chang (Chandaburi Circle), latitude 12°N, longitude 102°25'E (from September 24 to October 5, 1924)." The Record, No. 19, Bangkok, Thailand (January 1926), pp 173-177.

The purpose of this tour was to examine the vegetation of the coast and interior hills of the island which is 30 kilometers long, 12 kilometers wide, and 5 to 6 kilometers from the mainland. The island is hilly with numerous peaks 500 to 700 meters in height and has a number of perennial streams flowing into the sea, with the only level land being near the mouths of the larger streams. Descriptions along the route are quite general and touch on many subjects, including vegetation, topography, resources, and local color.

For further references on these tours as published in The Record, see Thailand Department

General, Text

of Commerce and Communications, Thailand Department of Commerce, Thailand Ministry of Agriculture and Commerce, and Thailand Ministry of Commerce and Communication.

G247-01-03-XSV      Thailand Ministry of Commerce, "Report on a tour of the Botanical Section through the eastern circles of Siam (December 1923 - April 1924)." The Record, Nos. 15 and 16, Bangkok, Thailand (January and April 1925), pp 157-172 and 217-233, map.

AMS  
QK364  
T36  
Dec 1923/  
Apr 1924  
Pt. 1 & 2

The purpose of this tour was to investigate the economic properties of the vegetation of the eastern circles which include a large number of provinces. The trip was from Ayudhya east to Ubol Rajasima, north through Nakon Panom, and west to Pitsanoluke. The trip included only a major highway through each province. Very general descriptions of vegetation, geology, resources, agriculture, soil, drainage, and local color are included. A route map in part 1 at a scale of 1:150,000 shows drainage, local products, vegetation, geology, and civilized areas.

For further references on these tours as published in The Record, see Thailand Department of Commerce and Communications, Thailand Department of Commerce, Thailand Ministry of Agriculture and Commerce, and Thailand Ministry of Commerce and Communication.

G248-01-03-XSV      Thailand Ministry of Commerce and Communications, Report on a Second Tour in the Province of Surat, Southern Siam (July 16 - August 16, 1927).

AMS  
QK364  
T36  
July/August  
1927

Bangkok Times Press, Limited, Bangkok, Thailand, July 1929, 6 pp, illus.  
Reprinted from The Record, No. 32, Bangkok, Thailand, April 1929.

The province of Surat Thani, covered in this report, is in central peninsular Thailand. General observations are made concerning the topography and soils encountered, with somewhat more detailed botanical descriptions given about vegetation. One specific note is that the delta of the Muang Khiri Rat is occupied by extensive mud flats with a mangrove forest. The route covered is included in a map in The Record, No. 29.

For further references on these tours as published in The Record, see Thailand Department of Commerce and Communications, Thailand Department of Commerce, Thailand Ministry of Agriculture and Commerce, and Thailand Ministry of Commerce.

G249-01-03-XSV      Thailand Ministry of Commerce and Communications, "Report on a tour in the Province of Naratiwat (April 12 - May 6, 1931)." The Record, No. 41, Bangkok, Thailand (July 1931), pp 14-19, illus.

AMS  
QK364  
T36  
Apr/May  
1931

The purpose of this tour was to inspect the vegetation of Bukit Tao, a hill about 4000 ft high on the southern border of Thailand. Subjects are covered generally and include vegetation, gold resources, drainage, and local color.

For further reference on these tours as published in The Record, see Thailand Department of Commerce and Communications, Thailand Department of Commerce, Thailand Ministry of Agriculture and Commerce, and Thailand Ministry of Commerce.

G250-01-03-XSV      Thailand Ministry of Commerce and Communications, Report on a Tour in the Province of Prachuap (June-July 1926) and Report on a Tour up the Nong Pasak (October 1926). Bangkok Times Press, Limited, Bangkok, Thailand, April 1928, 8 pp, illus, map. Reprinted from The Record, No. 28, Bangkok, Thailand, 1928.

AMS  
QK364  
T36  
June/July  
1926

This report is mainly concerned with the upper peninsular portion of Thailand within the province of Prachuap Kiri-Khan. The purpose of the tour was to investigate the flora of Khao

Luang, one of the highest peaks in the range forming the boundary with Burma. General descriptions of vegetation, soil, geology, drainage, topography, and natural resources in this vicinity and along the Sam Roi Yot range form the bulk of the article. The trip up the Mae Nam Pa Sak River was to obtain seeds of the "Krabao and Krabao Klak". At this time of the year (June and July), the river is small and has many rapids above Kaeng Kloi. The occurrence and distribution of trees bearing this fruit along the river and up to Ban Hong Bua (14°53'N) are essentially all that is discussed; other vegetative types encountered are discussed very briefly. A route map of the first tour, which shows vegetative type and rock types along the route traversed, is included.

For further references on these tours as published in The Record, see Thailand Department of Commerce and Communications, Thailand Department of Commerce, Thailand Ministry of Agriculture and Commerce, and Thailand Ministry of Commerce.

G251-01-03-XLSV

AMS  
QK364  
T36  
Dec 1926/  
Apr 1927  
Pt. 1 & 2

Thailand Ministry of Commerce and Communications, Report on a Tour in the Provinces of Champaw, Langsuan, and Surat, and Summary of Tour with General Notes (December 25, 1926 to April 21, 1927). Bangkok Times Press, Limited, Bangkok, Thailand, September 1928 and March 1929, 13 pp, illus, map. Reprinted from The Record, Nos. 29 and 30, Bangkok, Thailand, September and October 1928.

In addition to the three provinces mentioned in the title, the party spent some time on Ko Tao. Generally, the island is composed of steep, granite hills, with level land along the beaches and two major streams. The greater part of the island is covered with a dry evergreen forest, a high evergreen forest on the level portions, and a small amount of mangrove along the south bay.

The provinces toured can be divided into two belts, a coastal plain and a mountainous interior. The coastal plain is again subdivided into the southern portion of the region by another mountain chain. Excluding the southern portion, the coastal plain is roughly 15-25 kilometers in width and includes scattered isolated hills, either gradually sloping and round-topped sandstone and shale hills in the northern part, which seldom exceeds 300 meters in height, or more commonly, limestone hills throughout the area possessing precipitous sides exposing bare rock. The coastal plain can also be divided into a very sandy strip bordering the coast with the remainder being either of red or alluvial clay, both of which are very fertile. The mountainous interior varies from 75 to 1200 meters or greater in altitude. The most common rocks encountered are sandstones and shales but granite does occur in several places. Bamboos predominate the lower elevations while evergreen forest are usually found at higher elevations. Somewhat more detailed descriptions of topography, soils, natural resources, and vegetation are given along the route traveled. A route map at a scale of 1:636,492 gives topography by hachures, locations of vegetative types, rock types, and natural resources.

For further references on these tours as published in The Record, see Thailand Department of Commerce and Communications, Thailand Department of Commerce, Thailand Ministry of Agriculture and Commerce, and Thailand Ministry of Commerce.

G252-01-03-XSV

AMS  
QK364  
T36  
Feb/May  
1930

Thailand Ministry of Commerce and Communications, "Report on a tour in the provinces of Surat, Pang-Nga, Krabi, Trang, and Patalung (Feb 16 - May 3, 1930)." The Record, Nos. 43 and 44, Bangkok, Thailand, January and April 1932, pp 211-232, illus, map.

This report covers a number of subjects including vegetation (with botanical names), soil, geology, agriculture, topography, natural resources, and local color, but all descriptions are general. A route map at a scale of 1:980,392 is included, which shows hachured topography, drainage, geology, inhabitation, and vegetation.

For further references on these tours as published in The Record, see Thailand Department of Commerce and Communications, Thailand Department of Commerce, Thailand Ministry of Agriculture and Commerce, and Thailand Ministry of Commerce.

G253-01-03-XSV

Thailand Ministry of Commerce and Communications, Report on a Tour in the Provinces of Trat and Chantabun (December 16, 1929 - January 13, 1930). The Bangkok Times Press, Limited, Bangkok, Thailand, 1931, 8 pp, illus. Reprinted from The Record, No. 42, Bangkok, Thailand.

General, Text

This tour is concerned with the provinces of southeastern Thailand. The descriptions are general and cover vegetation, topography, soil, people, and products. Several illustrations along the routes are included.

For further references on these tours as published in The Record, see Thailand Department of Commerce and Communications, Thailand Department of Commerce, Thailand Ministry of Agriculture and Commerce, and Thailand Ministry of Commerce.

G254-01-03-XSV

AMS

QK364

T36

Nov 1924/

Jan 1925

Pt. 1 & 2

Thailand Ministry of Commerce and Communications, "Report on a tour of the Botanical Section in the circles of Chantaburi and Prachinburi (from November 22, 1924 to January 19, 1925)." The Record, Nos. 21 and 22, Bangkok, Thailand (July and October 1926), pp 337-343 and 387-392.

This report is concerned with provinces in southeast Thailand. The descriptions of the traveled route are general and cover a variety of subjects including vegetation, mineral resources, topography, local products, agriculture, and local color.

For further references on these tours as published in The Record, see Thailand Department of Commerce and Communications, Thailand Department of Commerce, Thailand Ministry of Agriculture and Commerce, and Thailand Ministry of Commerce.

G255-01-03-XSV

AMS

QK364

T36

Dec 1925/

Mar 1926

Pt. 1 & 2

Thailand Ministry of Commerce and Communications, "Report on a tour of the Botanical Section in the circle of Rajaburi (December 28, 1925 - March 19, 1926)." The Record, Nos. 24 and 25, Bangkok, Thailand, April and July 1927, pp 570-578 and 27-34, map.

The purpose of this tour was to visit Khao Ri Yai, Three Pagodas Pass, and Ban Bong Ti on the Burma border. The material covering vegetation, agriculture, resources, topography, geology, soils, and local color is general and quite diverse. The route map at a scale of 1:648,415 is included in The Record, No. 19, and shows topography, vegetation and rock types, and cultural features.

For further references on these tours as published in The Record, see Thailand Department of Commerce and Communications, Thailand Department of Commerce, Thailand Ministry of Agriculture and Commerce, and Thailand Ministry of Commerce.

G256-01-03-XSV

AMS

QK364

T36

Dec 1927/

Jan 1928

Thailand Ministry of Commerce and Communications, Report on Three Tours in the Provinces of Nakhon Sritamarat, Songkla, Satul, and Patallung (Tour 1, December 21, 1927 to January 31, 1928). Bangkok Times Press, Limited, Bangkok, Siam, September 1929, 12 pp, illus, map. Reprinted from The Record, No. 33, July 1929.

The area covered by this report is in peninsular Thailand and is concerned only with the first tour. Vegetation (with botanical names), soils, geology, topography, and agriculture are discussed in general terms for the route traversed with only a few detailed descriptions presented. Worthy of note is that Padang Besar and vicinity is undulating terrain, with red clay soil underlain by shale, and that Satul is located amidst limestone hills, sandy plains, and mangrove swamps. The route map also indicates spot locations of various vegetative types and rock types along the route traversed, in addition to roads, railways, and major towns.

For further references on these tours as published in The Record, see Thailand Department of Commerce and Communications, Thailand Department of Commerce, Thailand Ministry of Agriculture and Commerce, and Thailand Ministry of Commerce.

0257-01-03-XSV Thailand Ministry of Commerce and Communications, Report on Three Tours in the Provinces of Nakhon Si Thammarat, Songkhla, Satul, and Patallung (March 7 - May 16, 1928). Bangkok Times Press, Limited, Bangkok, Thailand, December 1929 and January 1930, 12 pp, illus. Reprinted from The Record, Nos. 34 and 35, Bangkok, Thailand, October 1929 and January 1930.

AMS  
GX364  
T36  
Mar/May  
1928  
Pt. 1 & 2

This report covers southern peninsular Thailand and contains only the last two tours. These tours involved trips to Kao Keo, a mountain on the Satul-Songkhla Province border, and a general tour through the provinces. Subjects treated in a general manner include vegetation, topography, geology, soils, drainage, agriculture, and local color. A route map is in an article of the same title, part 1, The Record, No. 33.

For further references on these tours as published in The Record, see Thailand Department of Commerce and Communications, Thailand Department of Commerce, Thailand Ministry of Agriculture and Commerce, and Thailand Ministry of Commerce.

0258-01-05-X0 Thailand Ministry of Commerce and Communications, Siam Natural Features. Bangkok Times Press, Limited, Bangkok, Thailand, 1926, 91 pp.

Not available for review.

0259-01-03-XLSVHC Thailand Ministry of Commerce and Communications, Siam Nature and Industry. Bangkok Times Press, Limited, Bangkok, Thailand, November 1930, 323 pp, illus, maps.

LC  
DS565  
.A5

Fourteen articles by various authors are combined in one volume. Among the many subjects treated are physical features, geology, climate, mining, forestry, flora and fauna, vegetation, and irrigation. The geology section is taken largely from Lee and to lesser extent Credner. Under climate are discussions of seasons, rainfall, wind, and temperature. A section on flora and fauna takes a scientific approach whereas forestry is treated from the viewpoint of the logging industry. Under irrigation the South Prasak Canal project is discussed in detail. A later edition in three volumes is listed under: Thailand Department of Commercial Intelligence.

0260-01-03-XL Thailand National Economic Council, Central Statistical Office, Statistical Year Book, new series, 1952 ---, various dates and pages.

This is a continuation of the series published by the Thailand Central Service of Statistics entitled Statistical Year Book Thailand.

0261-01-03-X0 Thailand Royal Department of Ways, First Annual Report on the Administration of the Department of Ways for the Year BE 2461 (April 1st 1918 to March 31st 1919). Thailand State Railway Printing Office, Bangkok, Thailand, October 1919, 51 pp, illus, maps.

AMS  
TE113  
.85A4

Emphasis is on statistics and administrative records, specifications and planning, and construction and maintenance of roads.

0262-02-03-X0 Thailand Royal Department of Ways, List and Route Numbers of Thailand National Highways. Bangkok, Thailand, 1961, 8 pp, map.

AMS  
TE113  
T3T36

This publication is printed in Thai, but the accompanying map "Thailand showing route numbers of national highways," at a scale of 1:2,500,000, has a translated title and bilingual legend. The colored map shows international, primary, secondary, and proposed highways along with route numbers. Basic information includes railroads and towns. The map has 1-deg coordinates.

General, Text

G263-02-03-X0

AMS  
GA71  
T3T37

Thailand Royal Survey Department, Progress Reports on Cartographic Activities in Thailand, 1958-1961. E/CONY.35/L.23, Bangkok, Thailand, 1961, 7 pp.

The report discusses progress in the fields of topographic mapping and geodesy, and cooperation with various organizations in these fields. Forty-two percent of the country has been mapped at scales of 1:5000 and 1:50,000, with the aid of aerial photographs at scales ranging from 1:40,000 to 1:60,000. Some special areas are photographed at scales of 1:4000 to 1:20,000.

G264-02-03-X0

AMS  
QB296  
T3T36

Thailand Royal Survey Department, Siam, Report on the Geodetic Work of the Royal Survey Department for the Period 1930-1933. Bangkok, Thailand, 1933, 9 pp, maps.

Similar material is presented in the same manner as in the preceding report for the period 1927-1929.

G265-02-03-X0

LC  
QB294  
.15

Thailand Royal Survey Department, "Siam, report on the geodetic work of the Royal Survey Department for the period 1933-1936." Travaux de L'Association Internationale De Geodesie, Tome 15, Fascicule 1, Paris, France (1936), not paged.

This report was read in September 1936 before the Sixth General Meeting to the Association of Geodesy in Edinburgh, Scotland, and summarizes the work done in Siam on triangulation, precise leveling, astronomical observations, computations, and azimuths. It is supplemented by data and maps which show location and status of the various activities.

G266-02-03-X0

LC  
QB294  
.15

Thailand Royal Survey Department, "Siam, report on the geodetic work of the Royal Survey Department for the period of 1936-1939." Travaux de L'Association Internationale De Geodesie, Tome 15, Fascicule 1, Paris, France (1939), not paged.

This report was read in September 1939 before the Seventh General Meeting of the Association of Geodesy in Washington, D. C., and summarizes the work done in Siam on triangulation, precise leveling, astronomical observations, computations, and azimuths. It is supplemented by data and maps which show location and status of the various activities.

G267-02-03-X0

AMS  
QB296  
T3T36

Thailand Royal Survey Department, Thailand, Report on the Geodetic Work of the Survey Department for the Period 1939-1954. Bangkok, Thailand, 1954, 33 pp, maps.

This report discusses the progress made in measuring the Ubon, Udon, and Chumphon base lines and gives numerical data on triangulation, Laplace stations, precise leveling, astronomical determinations, deviations of the vertical, and gravimetric determinations. A map at a scale of 1:1,000,000 shows the Ubon-Udon and Udon-Lampang triangulation nets, and four colored maps at a scale of 1:4,000,000 show major triangulation nets, location of precise leveling work, first order astronomical work, and the location of gravimetric stations. These maps differentiate between work before and after 1940.

G268-02-03-X0

AMS  
GA71  
T3T37

Thailand Royal Survey Department, Thailand, Report on Cartographic Activities of the Royal Survey Department. Bangkok, Thailand, 1958, 5 pp, maps.

The paper presented at the 2nd United Nations Regional Conference for Asia and the Far East,

Tokyo, summarizes work accomplished in the various fields of endeavor by the Department up to June 1959. Forty percent of Thailand has been surveyed at scales from 1:25,000 to 1:200,000, and most of the country is covered by aerial mapping at 1:50,000. Maps show triangulation nets, base lines, leveling work, magnetic stations, astronomical work, gravimetric work, and areas surveyed topographically.

G269-02-03-X0

AMS  
QB296  
T3T36

Thailand Royal Survey Department, Siam, Report on the Geodetic Work of the Royal Survey Department for the Period of 1927-1929. Bangkok, Thailand, 1930, 8 pp, maps.

This general report summarizes progress on base lines, triangulation, precision traverses and precision leveling, and latitudes, longitudes, and azimuths. Maps at scales of 1:3,000,000 and 1:6,000,000 show triangulation and leveling work previous to and after 1927.

G270-01-05-X0

Thavil-Sreshtabanijkar, Luang, Along the Railway Lines, The Country from Padang Besar to Chiangmai. Royal State Railway of Siam, Bangkok, Siam, 1935, 43 pp, map.

Not available for review.

G271-01-03-X0

LC  
DS507  
.T49

Thomson, John, The Straits of Malacca, Indo-China, and China or Ten Years' Travels, Adventures, and Residence Abroad. Sampson Low, Marston, Low & Searle, London, England, 1875, 546 pp, illus.

This book presents a vivid recollection of the author's travels in Malaya, Thailand, and Indochina. Emphasis is placed on local color, incidents, and tourist attractions with few mentions being made of terrain factors.

G272-01-03-X0

LC  
DS565  
.T5

Thompson, Peter Anthony, Lotus Land, Being an Account of the Country and the People of Southern Siam. Lippincott, Philadelphia, Pa., 1907, 312 pp, map.

This is an account of the peasantry of Thailand with a large part devoted to customs and religion. General descriptions of topography and vegetation are scattered throughout the report.

G273-01-03-X0

AMS  
DS563  
T47

Thompson, Virginia, Thailand, the New Siam. Macmillan Co., New York, N. Y., 1941, 65 pp.

This is one of the most exhaustive historical studies on Thailand. The first of three parts deals with geography, racial groups, government, and history, with emphasis on the era during the reigns of Chulalongkorn and other kings of the Chakri Dynasty. Part 2 is concerned with land tenure, population, natural resources, agricultural techniques, products and markets, domestic and foreign commerce, handicrafts, mechanized and state industries, transportation, communications, housing, finance, and labor. Part 3 gives data about religion, Thai society, social problems, public health, fine arts, language, education, and press. An extensive bibliography is included.

G274-01-03-X0

AMS  
NE279  
T77

Transportation Consultants, Inc., A Comprehensive Evaluation of Thailand's Transportation System Requirements. Washington, D. C., 1959, various pages, maps.

General, Text

Water, rail, road, and air transportation is discussed in great detail. Annex V-1 considers roadbed width, surfacing, road condition, and bridges in descriptions of the various segments of roads in the country.

G275-01-03-XLH      Transportation Consultants, Inc., An Engineering Reconnaissance Report on Highways, Airfields, River Crossings, Water Transportation and External Routes of Supply for the Kingdom of Laos. Washington, D. C., June 27, 1957, 90 pp. (Prepared for the International Cooperation Administration.)  
DIA/DL  
EIF  
306,174

Existing transportation facilities within Laos and to Bangkok, Saigon, and Fouane are discussed in detail and evaluated. The section on highways includes descriptions of surfacing, seasonal aspects, and bridges, and also suggestions for improvements. Quantitative descriptions of 15 airfields are given. A few statements on local bank conditions, channel profiles, and high and low water stages are included in the discussion of traffic and facilities along the Mekong River from Luang Prabang to the Cambodian border. Maps and profile charts are provided in 19 annexes which treat parts of the report in more detail. A part of the Mekong is shown at scale 1:25,000. Transportation routes are summarized in a map at scale 1:2,083,33.

G276-02-03-XO      Ts'ai, W., T'ai Kuo 71-fu Hsin Chin. (New Gazetteer of the 71 Changwat of Thai.) Thailand-China Compilation and Translation Agency, Bangkok, Thailand, 1954, 237 pp. (With maps in Chinese with parts in English and Thai.)  
AMS  
D6566  
137

Towns and routes are shown in small-scale maps and the trilingual section is a listing of the Changwats and amphurs.

G277-01-03-XO      Tucker, Captain, Report on Bangkok-Lop Buri-Khorat Road (From Dou Muang Northwards) Bridge Reconnaissance, 1946 (?), 31 pp.  
DIA/DL  
EIF  
272,060

Type of construction, width, surfacing, and banks and approaches are described for bridges along the route from Muang turning to Khorat by way of Lop Buri.

G278-01-03-XO      United Nations, "Cartography in Thailand." World Cartography, vol 2, United Nations, New York (1953), pp 84-95.  
AMS  
GAI05  
U35  
vol 2

This article summarizes recent accomplishments of the Royal Survey Department and the Aerial Mapping Organization of Thailand in routine survey work.

G279-02-03-XO      United Nations Economic Commission for Asia and the Far East, Agricultural Development of Thailand. ECAFE/L.86, Bangkok, Thailand, 1955, 49 pp.  
maps.

Not available for review.

G280-01-03-XO      United Nations Economic Commission for Asia and the Far East, Bricks and Building Materials in Asia and the Far East, 1956. E/CE.11/432, Bangkok, Thailand, November 1956, 116 pp., 111ms.  
LC  
REF59  
AJ05

This report first presents a general summary for the area and gives summary for each of



the countries included. A brief description of the country and people precedes a summation of building materials, such as steel, cement, timber, bamboo, clay, and sand. Source, cost, and position in the building industry are usually discussed for each of the materials, and the government's role in housing is given for each of the countries. This is the second report in the series, the first having been issued in 1955.

G281-01-03-X0 United Nations Economic Commission for Asia and the Far East, Department  
of Economic and Social Affairs, Statistical Yearbook 1958. New York,  
USGS N. Y., 1958, 612 pp.  
O55  
gun 28s  
1958

Issuance of this annual volume began in 1949. The 1958 edition contains statistics on population, manpower, production summary, agriculture, forestry, fishing, industrial production, mining and quarrying, manufacturing, construction, electricity and gas, transport and communications, internal and external trade, balance of payments, international economic aid, wages and prices, national income, finance, social statistics, education, and culture.

G282-01-04-X0 United Nations Economic Commission for Asia and the Far East, Economic and  
Social Council, Bibliography of Scientific Publications of South and  
USGS Southeast Asia. INSDOC, National Physical Laboratory, New Delhi, India,  
O42.030(640) various dates, various pages.  
gun25b1

Each issue of this quarterly contains over 1000 references. Of the two volumes examined (1957 and 1958), the later was presented in 12 monthly issues. A variety of subjects is included with emphasis on technical articles. Most are from Indian periodicals and no papers of value to environment studies in Southeast Asia were recognized.

G283-01-03-X0 United Nations Economic Commission for Asia and the Far East, Economic and  
Social Council, Economic Survey of Asia and the Far East 1952.  
LC E/CN.11/362, Bangkok, Thailand, February 1953, 104 pp.  
HC411  
.U4A23

This is the sixth report in a series giving comprehensive reviews of Asian and Far Eastern economics. Subjects of discussion are production of foodstuffs, raw materials and industry, international trade and payments, and monetary and fiscal developments. Tables and charts referring to individual countries supplement the general discussion.

G284-01-03-X0 United Nations Economic Commission for Asia and the Far East, Economic  
and Social Council, Economic Survey of Asia and the Far East 1953.  
LC Bangkok, Thailand, February 1954, 161 pp.  
HC411  
.U4A23

This edition is similar to previous issues except it is presented in two sections.

G285-01-03-X0 United Nations Economic Commission for Asia and the Far East, Study  
on Highways in Thailand - 1950. E/CN.11/Trans/17/Annex II, United  
LC Nations Economic and Social Council, Bangkok, Thailand, March 21,  
JX1977 1951, 84 pp.  
.A2

This report presents information on the organization, requirements, financing, design standard, construction, and safety of Thailand's highway system.

G286-01-03-X0 United Nations Food and Agriculture Organization, Agriculture in Asia  
and the Far East, Development and Outlook. Rome, Italy, October 1953,  
LC 219 pp.  
S471  
.A75F6

General, Text

This report concerns all the countries in the Far East and is presented in two parts: a report of the meeting and the working paper prepared for the discussion at the meeting. The first part (58 pp) is composed of brief statements by the representatives concerning the food and agricultural situation in their respective countries, the Food and Agriculture Organization work in the region, a review of the agricultural development policies, and two annexes which give the text of resolutions and a list of attendants. The second part (163 pp) is concerned with the region as a whole and discusses the topics of recent developments, agricultural plans and programs, production targets and estimates, land and water resources development programs, crop and livestock improvement programs, problems and programs of fishery developments, forestry products uses and problems, economics, and relations with the individual farmers. Numerous tables and charts expand the text and relate the discussions to the particular countries. All contents are of an economic and health nature.

G287-01-03-XO

United Nations Food and Agriculture Organization, Food and Agriculture Organization Official Mission Report, Nakorn Rajasima, August 1953, 16 pp.

DLA/DL

EIF

252,917

This document touches on most aspects of life in Khorat with emphasis on health and culture.

G288-02-03-XO

United Nations Food and Agriculture Organization, Report of the FAO Mission for Siam, Washington, D. C., September 1948, 125 pp, illus, maps.

AMS

S471

T3F68

This report presents the recommendations of the Mission as determined by field work in the country during the period of 3 January 1948 to 30 March 1948. The purpose of the Mission was to investigate agricultural production, irrigation, control of rinderpest, forestry, economics of agriculture, agricultural statistics, and agricultural services, and to make recommendations as to how they could be improved. All recommendations are from a social or economic viewpoint, and no discussions of natural features are given. Numerous photographs and three maps are included.

The first of these maps is entitled "Map of Siam; vegetation types and irrigation projects," and is at a scale of 1:7,875,000. It shows the location of 15 irrigation projects under construction and the areal extent of lowland rice, evergreen forest, and deciduous forest and bush.

The second map, at a scale of 1:2,750,000, is entitled, "Teak distribution in Northern Siam," covers the country from Bangkok northward, and shows a generalized view of teak distribution.

The third map, "Depth of flooding on Bangkok Plain," at a scale of 1:1,375,000, shows the areas above highest flood level, covered by highest flood only, covered by average high flood, flooded each year, and deeply flooded each year. This map bears a strong resemblance to the Thailand Royal Irrigation Department's map entitled "Map showing depth of flooding on the plain of central Thailand." Each of the three maps also shows major towns and drainage but has no coordinates.

G289-02-03-XHVC

United Nations Food and Agriculture Organization, National Committee, Thailand, Thailand and Her Agricultural Problems, Thailand Ministry of Agriculture, Bangkok, Thailand, March 1949, 116 pp, illus, maps.

LC

S471

.S5a5

1949

This booklet provides a background of Thailand and her agricultural potential. It contains sections on the committee, rice culture and rice pests, veterinary work and biologics, irrigation, aquatic resources and fisheries, forests, cooperative movement, Kasetsart University, nutrition, malaria and agriculture, rice consumption trend study, and rice trade. The irrigation section discusses the country as a whole in terms of topography, geographical divisions, and rainfall, before going into specifics. The more important watersheds, rivers, and drainage areas are tabulated. Irrigation is then discussed for the Central Plain, northeastern region, and northern region with parts being devoted to the region as a whole and to individual projects. The forestry section, as the irrigation section, begins with a general discussion of the country as a whole. The distribution, a listing of species of commercial importance and economic importance of the tropical evergreen, hill evergreen, coniferous, mangrove, deciduous dipterocarps, and mixed deciduous forest make up the remainder of the article. Photographs illustrate each section and seven maps are included.

Six of these are Thailand Royal Irrigation Department maps. The map, "Map showing depth of flooding on the plain of Central Siam," map no. 200,000A, is at a scale of approximately 1:1,150,000. It covers the Chao Phraya floodplain from Nakhon Sawan to the Gulf and shows areas above highest flood level, covered only by highest flood, covered by average high flood, flooded each year, and deeply flooded each year. Irrigation tracts, major drainage, and towns are included, but the map has no coordinates.

The map, "Map of Siam showing irrigation projects completed, under construction, and proposed," map no. 100,000, is at a scale of approximately 1:5,400,000. It shows locations of 13 projects completed, 10 projects under construction, and 9 projects proposed. Four geographical divisions, railways, drainage, and towns are included, but the map has no coordinates.

The map, "Map showing the quantity of rainfall in irrigation season (June-November) average between 1903-1937," map no. 20,054, print no. 2, is at a scale of approximately 1:8,500,000. It has isohyetal lines at the 500- through 4000-millimeter levels with increments of 500 millimeters. Very little of the country has more than 1500 millimeters of rainfall with the heaviest concentrations being along the Burma border where it is greater than 3500 and 4000 millimeters. Major towns and drainage are included, but the map has no coordinates.

The map, "Map showing the annual quantity of rainfall average between 1903-1937," map no. 20,054, print no. 3, is at a scale of approximately 1:8,500,000. It has isohyetal lines at the 500- through 4000-millimeter levels with increments at each 500 millimeters. The majority of the country has less than 1500 millimeters of rainfall with the heaviest concentration being along the western coast just below the Burma border. Here it is greater than 4000 millimeters. Major towns and drainage are included, but the map has no coordinates.

The map, "Paths of various winds which bring rain to Siam during rainy season," map no. 86,808, print no. 4, is at a scale of approximately 1:8,500,000. It shows the paths of typhoons coming from the southeast during May through November, monsoons from the southwest during May-October, Bengal cyclones from the southwest during May and June, and conventional track entering the Gulf during March-April. Major towns, drainage, and topography by hachures are included, but the map has no coordinates.

The map, "Irrigation map showing Chao Phya barrage scheme and other projects in the plain of Central Siam," map no. 200,000B, is at a scale of approximately 1:1,150,000. It covers the floodplain from Nakhon Sawan to the Gulf and shows the Chao Phya headwork, other headworks, boundaries at projects proposed, under construction, and completed, and the boundary of the total area.

The seventh map, "Forest types of Siam," issued by the Thailand Royal Forest Department, at a scale of 1:10,000,000, shows the distribution of evergreen, coniferous, deciduous dipterocarps, mixed deciduous, and mangrove forests and savannas. Major towns and drainage are shown and the map has 3-deg coordinates beginning with 7°N and 96°E with bars for each other degree.

G290-02-03-X0

U. S. Air Force Air Attaché, Highway Construction Program. Report No.

DIA/DL

IR 21-52, Bangkok, Thailand, 12 March 1952, 10 pp, map.

EIF

176,402

This report contains information on a four-year highway development plan within Thailand and lists the following six recommendations by the committee appointed by the chairman of the Thai Technical and Economic Committee: increased roadbed width, shoulder construction, load limitation for trucks on highways, the use of laterite mixed with asphalt or cement as a roadway base, asphalt surfacing, and reinforced-concrete bridges. Seven pages of statistics show cost estimates and proposed lengths of new highways. A map and overlay indicate highways opened for public service and highways under a four-year construction program. The plan is plotted on a reduced 1:2,500,000 map, "Map of Siam," of unknown authority.

G291-02-03-X0

U. S. Air Force Air Attaché, Transmittal of Maps. Saigon, Indochina.

DIA/DL

March 11, 1952, 7 pp, (with inclosure of maps and supporting text in

EIF

French)

179,158

The maps and text inclosed originally appeared in L'Eveil de l'Indochine. The maps show drainage, cities and boundaries, routes, and vegetation for parts of Laos at 1:100,000 or smaller scale.

General, Text

G292-01-03-X0 U. S. Air Force Air Attaché, Visit to Northwestern Thailand. Bangkok, Thailand, February 25, 1952, 3 pp, illus.  
DIA/DL  
EIF  
175,640

This report presents data on facilities and dimensions of airfields existing in the area.

G293-01-03-X1 U. S. Air Force, Military Attaché, Bangkok, Thailand, The Agriculture of Thailand, unpublished, Bangkok, Thailand, May 23, 1952, 16 pp.  
DIA/DL  
EIF  
176,416

This report divides the country into four geographic areas with 12 districts and briefly describes the climatic conditions for each area. A short section relates soils to agriculture but no specific data or locations are given. The remainder, and largest part of the report, deals with rice and other food sources giving information on production and farming techniques.

G294-02-03-X0 U. S. Army Forces, Far East, Major Administrative Divisions in Thailand. 1956, 53 pp.  
AMS  
JS7401  
U58

Changwats, amphoes, and king amphoes are listed and located on small-scale map..

G295-01-03-X0 U. S. Army Forces, Far East, Military History Section, Japanese Research Division, Thailand Operations Record. Japanese Monograph No. 177, November 30, 1953, 37 pp, maps.  
LC  
D767  
.2  
.J36

This is a detailed account of the Thai-Japanese relations during World War II as political and combat allies. Many sources were used to prepare the monograph and three small-scale maps supplement the text. Political situations and troop deployment are described in detail.

G296-01-03-X0 U. S. Army Intelligence Division, Military Attaché, Road Report - Southern Thailand. Report No. R-130-51, Bangkok, Thailand, June 16, 1951, 2 pp.  
AMS  
EIF  
148,937

This road log for 108 kilometers of the route from Narathiwat to Yala mentions that most of the way is narrow, rough, and passable in the dry season only.

G297-01-03-X0 U. S. Army Intelligence Division, Military Attaché, Thailand, Road Report - Bangkok, Thailand to Siam Reap. Report No. R-245-50, Bangkok, Thailand, December 19, 1950, 2 pp.  
DIA/DL  
EIF  
133,503

This report gives information about the road foundation, type of surface, bridge descriptions, width of road, and seasonal aspects.

G298-01-05-X0 U. S. Army Language School, Thai: History and Geography. Presidio of Monterey, Monterey, Calif., 1956, 26 pp.

Not available for review.

G299-01-03-XO U. S. Army Language School, Thai Outline of History and Geography.  
 Presidio of Monterey, Monterey, Calif., September 1957, 44 pp, illus,  
 maps.  
 IC  
 PLA136  
 .U53

This publication, with the exception of the title page, is written in Thai. Examination of title, illustrations, and two small-scale maps indicate that it furnishes a very brief sketch of the country.

G300-01-03-XO U. S. Army Liaison Office, Singapore, Railway Trip Singapore to Bangkok.  
 Report R-102-55, Singapore, March 15, 1955, 4 pp.  
 DIA/DL  
 EIF  
 247,010

The condition of the roadbed is described as no more than adequate.

G301-01-03-XO U. S. Army Liaison Office, Singapore, Report of Overland Journey from Singapore to Bangkok. Report No. R-301-54, Singapore, June 24, 1954,  
 27 pp, illus.  
 DIA/DL  
 EIF  
 239,851

The purpose of this journey was primarily to transport a car to Bangkok, but road information was gathered along the way. The journey is divided into seven segments, and along each a mileage log and description of the road are given in terms of width, surface, condition of road, and location and types of bridges. Noteworthy is the fact that the road was impassable from Patalung to Prachuab Khrikhan, and the car was shipped by rail. The accompanying photographs show various views along the route.

G302-01-04-XO U. S. Army Map Service, CE, Gazetteer to Maps of Thailand. Washington,  
 D. C., December 1944, 972 pp, maps.  
 AMS  
 DS566  
 U57

This is probably the most comprehensive (approximately 68,000 entries) gazetteer to Thailand. Sources of information are Thailand Royal Survey Department maps, Survey of India maps, Royal State Railway map, Service Geographique de l'Indochine maps, British Admiralty charts, and U. S. Hydrographic Office charts. Names, designations (village, stream, etc.), coordinates, and sources of names are given. Included are indexes of Thailand Royal Survey Department 1:50,000, 1:100,000, 1:200,000, and 1:1,000,000 maps, Survey of India 1:253,440 maps, British Admiralty charts, and U. S. Hydrographic charts.

G303-01-03-XLSVHC U. S. Army Map Service, CE, The Military Geography of Southeast Asia and Australasia. Engineer Intelligence Survey 85-56, Washington, D. C.,  
 May 1957, 20 pp, illus, maps.  
 DIA/DL  
 EIF  
 295,560

This report treats generally the topics relief, drainage, vegetation, climate, population, critical areas, beaches, transportation facilities, and natural routes. Maps at an approximate scale of 1:30,000,000 illustrate the above-mentioned topics.

G304-01-04-XL U. S. Army Map Service, CE, Far East, Foreign Map Accessions.<sup>\*</sup> Various  
 dates, various pages.

This bimonthly publication is comprised of sections containing topographic and special-purpose maps acquired by the Army Map Service, Far East, in the geographic area of 50°E to 100°E and 50°S to 75°N. The maps are catalogued according to area, type, subject, subarea, and series. The full extent of the publication is not known, but all issues available from the Army Map Service, July 1963 through June 1964, were examined and useful entries extracted.

\* For official use only.

General, Text

G305-01-03-XLVH

U. S. Army Map Service, CE, Far East, Road Reconnaissance Report No. 1-39,  
1962, Bangkok, Thailand, various dates, various pages.

DIA/DL

EIF

403,804

Of the first 39 reports issued late in 1962, all but No. 25 were examined. Except for Nos. 29 and 37 in which data are incomplete, the reports are concerned with and provide pertinent detailed information on road conditions. The data usually furnished for bridges are length, width, clearance, type and basis of abutments, number and size of posts, spans and stringers, and type and size of deck. Stream-bank data include grade, material, height, vegetation, and bypass conditions. Stream data include feet below bridge deck, bottom material, and depth, width, and velocity of water. A mileage table is usually provided with brief mention of features such as villages, bridges, grade, etc.

Individual reports cover the following segments of road:

- No. 1. Lamnarai - Dan Sai; 169.9 miles, 138 bridges.
2. Ban Sam Yeak - Taphan Hin; 50.2 miles, 37 bridges.
3. Dan Sai - Muang Loei; 55 miles, 60 bridges.
4. Muang - Phitsanulok; 77.5 miles, 22 bridges.
5. Wang Thong - PU 7884; 50.3 miles, 44 bridges.
6. Dan Sai - Nakhon Thai; 5 bridges.
7. Lam Sak - QU 4658; 4.5 miles, 11 bridges.
8. Dan Sai (QU3012) - QU3120; 5.4 miles, 10 bridges.
9. Nakhon Phanom - Tha Uthen; 15.9 miles, 7 bridges.
10. Tak - Lampang; 120 miles, 66 bridges.
11. Lampang - Ngao (through Ban Rangna); 53.2 miles, 35 bridges.
12. Ngao - Muang (through Ban Macka); 33.7 miles, 22 bridges.
13. Muang Phayo - Chiang Rai (through Muang Phan); 53 miles, 33 bridges.
14. Ban Nong Ban Khok - Ban Lam Narai; 60.5 miles, 28 bridges.
15. Lop Buri - Sara Buri; 34.2 miles, 9 bridges.
16. Sara Buri - Khorat; 90.8 miles, 16 bridges.
17. Ubon - Trakanphut - Khenmarat - Ban Na Wa Yai; 93.7 miles, 26 bridges.
18. Trakanphut Phon - Bon Dan Kao - Tang Lum; 68 miles, 12 bridges.
19. Warin Chamrap - Ban Kaeng Yang; 37.9 miles, 16 bridges.
20. Amnat Charoen - Bai Na Wa Yai; 20 miles, 16 bridges.
21. Ban Choho - Ban Nong Buakhok - Sai Tair; 104.3 miles, 68 bridges.
22. Ngae Pa - Phrae; 63.3 miles, 43 bridges.
23. Phrae - Phitsanulok (through Den Chai); 154.5 miles, 120 bridges.
24. Sikhethai - Tak; 50.4 miles, 41 bridges.
26. Nakhon Pathom - Suphon Buri; 67.1 miles, 18 bridges.
27. Konchanburi - U Thong; 31.0 miles, 6 bridges.
28. Kan Chan Buri - Bangkok; 85.4 miles, 49 bridges.
29. Chiang Mai - Ban Ton Chok; 25.8 miles, 4 bridges.
30. Chiang Mai - Pharo; 30.3 miles, 16 bridges.
31. Lomphun - Thoen; 97.9 miles, 51 bridges.
32. Chiang Rai - Thoeng - Muang Phayo; 54.4 miles, 107 bridges.
33. Chiang Rai - Burma border (through Chiang Saen); 37.9 miles, 21 bridges.
34. Thoeng - Chiang Khong; 46.0 miles, 63 bridges.
35. Ban Mae Sual and vicinity; 51.2 miles, 13 bridges.
36. Chiang Kham - Pong; 32.7 miles, 11 bridges.
37. Khonchanaburi - Three Pagodas Pass; traveled by various carriers and on foot.
38. Ban Lam Narai - Lo Buri; 56.9 miles, 22 bridges.
39. Chiang Mai - Hot; 63.8 miles, 22 bridges.

G306-01-03-X0

U. S. Army Map Service, CE, Far East, Transmittal of Annotated Maps,  
January 9, 1962, 1 p, 57 maps.

DIA/DL

EIF

380408

This information is the result of a reconnaissance conducted by ROAD RECCE, AD SURVEY, GNG, FARLEP in November 1960, to update the road information presented on parts of the AMS L708 and L509 series and the HIND 1095 series. A few remarks concerning vegetation and topography along the roads are included, and some village and town information is brought up-to-date.

G307-01-03-X0 U. S. Army Military Attaché, Saigon, South Vietnam, Route Reconnaissance  
Laos - Cambodia - Thailand - Laos. Report No. R-127-55, June 4,  
 1955, 14 pp, illus, maps.  
 DIA/DL  
 EIF  
 251,493

This detailed road log contains information on mileages, bridges, town locations, road junctions, railroads, road conditions, and traffic. The route is keyed to French 1:250,000 topographic maps and AMS reprints of French 1:1,000,000 topographic maps. The reporting authority had a very low opinion of the 1:1,000,000 maps and upon comparison with the latest AMS editions, it is obvious that many changes have been made. Illustrations consist of 72 photographs, mostly of bridges.

G308-01-03-X0 U. S. Army Military Attaché, Thailand, Construction Activities, Bangkok-Chonburi Highway. Report No. R-80-53, 27 March 1953, 3 pp.  
 DIA/DL  
 EIF  
 200,441

This report contains information on the Bangkok-Chonburi highway taken from a report made by the highway engineer of the Special Technical and Economic Mission to Thailand (STEM). It indicates many of the road construction techniques used by the Department of Highways and the recommendations made by STEM engineers.

G309-01-03-X0 U. S. Army Military Attaché, Thailand, Data on Highways in Thailand.  
 Report No. R-266-60, July 28, 1960, 49 pp.  
 DIA/DL  
 EIF  
 355,919

This report discusses surfacing, roadbed width, and conditions of segments of highways distributed over most of the country. The field examinations were made in 1959.

G310-01-03-X0 U. S. Army Military Attaché, Thailand, Highways of Thailand. Report No.  
 R-231-52, Bangkok, Thailand, September 29, 1952.  
 DIA/DL  
 EIF  
 187,856

This report is composed of two photographs of a road being constructed between Satun and Ban Cho Mi Lang.

G311-01-03-X0 U. S. Army Military Attaché, Thailand, Highways of Thailand. Report No.  
 R-343-52, Bangkok, Thailand, December 20, 1952, 6 pp.  
 DIA/DL  
 EIF  
 193,000

Eleven sections of road in northern and central Thailand are described.

G312-01-03-X0 U. S. Army Military Attaché, Thailand, Highways of Thailand. Report  
 No. R-58-53, Bangkok, Thailand, March 10, 1953, 6 pp.  
 DIA/DL  
 EIF  
 198,721

This report, which is in tabular form, presents the status of various roads as determined during 26 January-1 February 1953 by a highway engineer of the U. S. Special Technical and Economic Mission. The Bangkok-Lop Buri-Ta Khli-Nakhon Sawan-Tak-Thoen-Chiang Mai-Mae Sariang-Lampang-Phayao route is logged by kilometers, and the roadbed conditions are described in terms of surface, width, and condition. Recommendations are made concerning improvement of the road system along with the construction equipment needed.

General, Text

G313-01-03-X0 U. S. Army Military Attaché, Thailand, Highways of Thailand - Bangkok to Chumporn. Report No. R-81-53, Bangkok, Thailand, March 27, 1953, 4 pp.  
DIA/DL  
EIF  
201,123

Details of conditions of highway are presented in this report.

G314-01-03-X0 U. S. Army Military Attaché, Thailand, Highways of Thailand, South and Northeast Thailand. Report No. R-57-53, Bangkok, Thailand, March 10, 1953, 4 pp.  
DIA/DL  
EIF  
200,479

This is a detailed report on surface conditions of the short segment of road on Phuket Island, of the segment from Hat Yai to Sadao in the far south, and of a few hundred kilometers of road northeast from Khorat.

G315-01-03-X0 U. S. Army Military Attaché, Thailand, Highways of Thailand - Surin to the Cambodian Border. Report No. R-124-53, Bangkok, Thailand, May 14, 1953, 1 p.  
DIA/DL  
EIF  
205,406

Of note in this road report is the fact that this all-weather route has a laterite surface. Road conditions are described according to maintenance, base material, and road and shoulder widths.

G316-01-03-X0 U. S. Army Military Attaché, Thailand, Highways, Thailand. Report No. R-244-51, Bangkok, Thailand, November 16, 1951, 1 p.  
DIA/DL  
EIF  
160,278

This report states that the 97-km road from Khok Samrong to Muang Chainat was closed to traffic for 15 days starting on 7 November 1951. The condition of the highway was reported as good except for the segment between kilometers 26 and 50.

G317-01-03-X0 U. S. Army Military Attaché, Thailand, National Highways Thailand. Report No. R-52-52, Bangkok, Thailand, no date.  
DIA/DL  
EIF  
169,372

This report discusses two segments of highway. The first, from Roi Et to Ubon Ratchathani includes a detailed road log describing carefully located bridges and road conditions. The second, which continues east to the Mekong River, does not include a road log. Both are impassable in the rainy season.

G318-01-03-X0 U. S. Army Military Attaché, Thailand, Report of Field Trip. Bangkok, Thailand, September 25, 1961, 8 pp.  
DIA/DL  
EIF  
376,839

This report is concerned with the health conditions in Udon, Khon Kaen, and Loei.

G319-01-03-X0 U. S. Army Military Attaché, Thailand, Road Between Tha Pha and Uttaradit. Report No. R-30-56, Bangkok, Thailand, March 27, 1956, 2 pp.  
DIA/DL  
EIF  
272,097



This is a report on the 67-kilometer segment of road between Tha-Pla and Uttaradit. The highway is a dry-weather road with poor bridges and has a daily bus serving the five connecting villages.

G320-01-03-X0 U. S. Army Military Attaché, Thailand, Road Conditions in Thailand - Bangkok to the Mae Nam Welu (12°23'N; 102°23'E). Report No. R-24-53, Bangkok, Thailand, January 28, 1953, 3 pp.  
DIA/DL  
EIF  
196,521

Road conditions and data on construction and construction materials are provided in this report.

G321-01-03-X0 U. S. Army Military Attaché, Thailand, Road Conditions, North Central Thailand. Report No. R-126-52, Bangkok, Thailand, June 10, 1952, 1 p.  
DIA/DL  
EIF  
178,047

Road conditions are presented for the route Bangkok-Lop Buri-Tak-Lampang.

G322-01-03-X0 U. S. Army Military Attaché, Thailand, Road Report. Report No. R-76-52, Bangkok, Thailand, April 28, 1952, 21 pp.  
DIA/DL  
EIF  
171,455

This report is largely concerned with the locations of bridges and only general statements are made concerning the roads. The routes covered are Ban Phai-Udon Thani-Nong Khai, Udon-Sakhon Nakhon-Nakhon Phanom, and Khon Kaen-Loei. Bridges are mostly of wood, one-lane wide, and have a 12- to 18-ton capacity.

G323-01-03-X0 U. S. Army Military Attaché, Thailand, Roads of Peninsula Thailand. Report No. R-236-52, Bangkok, Thailand, October 4, 1952, 3 pp, maps.  
DIA/DL  
EIF  
185,856

This report contains a detailed report of four segments of road in peninsular Thailand: Sathani Nong Chin to Satun, Hat Yai to Sadao to the Malayan border, Yala to Khok Pho, and Khok Pho to Hat Yai. Descriptions of bridges and road surface conditions are carefully located by pedometer readings. Three location maps are contained, but they are written in Thai.

G324-02-03-X0 U. S. Army Military Attaché, Thailand, Roads of Thailand. Report No. R-127-52, Bangkok, Thailand, June 11, 1952, 1 p, map.  
DIA/DL  
EIF  
179,152

This report summarizes by means of a map at scale 1:1,000,000 the conditions of the route from Chiang Mai to Mae Sariang and Mae Hong Son and back. Source of the information is a reliable Thai observer.

G325-01-03-X0 U. S. Army Military Attaché, Thailand, Routes of Central Thailand. Bangkok, Thailand, 1955, 122 pp, illus, maps.  
DIA/DL  
EIF  
260,026

This report discusses the condition of nine segments of road in north-central Thailand. Type of road surface, width, landmarks, dimensions and plans of bridges, fords and streams, and mileage are given. Detailed road itineraries with sketches of bridges and routes provide some

General, Text

details. The routes link Tak and Thoen, Thoen and Lampang, Pitsanulok and Sukhothai, Sukhothai and Tak, Tak and Mae Sot, Sukhothai and Sawankhalok, Uttaradit and Sawankhalok, Tak and Muang Kosesphi, and Lap Lac and Uttaradit.

G326-01-05-X0 U. S. Army Military Intelligence Service, Military Attaché, Thailand,  
Highways. Report No. R-32-50, Bangkok, Thailand, March 6, 1950.

Not available for review.

G327-01-05-X0 U. S. Army Military Intelligence Service, Military Attaché, Thailand,  
Survey of Thailand. Report S30-660, March 1941.

Not available for review.

G328-01-03-X0 U. S. Army 9th Service Command, Topographic-Military. October 16, 1944,  
2 pp.  
DIA/DL  
EIF  
185,658

This report describes surface conditions of four sections of road. The first section, Lampang via Chiang Rai to Chang Sen, is an all-weather macadamized road; the second, Kentung to the border, is impassable during the rainy season; the third, Kentung to the Mekong, is graded, but not hard-surfaced; and the last, Chiang Mai north to the Burma border, is a two-way hard-surfaced road.

G329-01-03-X0 U. S. Army Walter Reed Institute of Research, Kingdom of Thailand. Walter  
Reed Army Medical Center, Health Data Publication 6, Washington, D. C.,  
1960, 41 pp.  
AMS  
RA422.5  
H43

This report, prepared for the use of medical officers, gives a general picture of the country and its people and describes diseases of Thailand under the headings communicable diseases, nutritional diseases, and drug addiction. Four appendixes list animal diseases, hospital facilities in Bangkok, leprosy hospitals, and Protestant medical missions.

G330-01-03-X0 U. S. Bureau of Foreign and Domestic Commerce, International Reference  
Service, Size - Summary of Basic Economic Information. Vol 6, No. 21,  
Washington, D. C., May 1949, 8 pp.  
LC  
HF105  
.C2852

This brief article, supported by statistical data, presents a good description of Thailand's geography and economy, emphasizing the latter.

G331-01-04-X0 U. S. Central Intelligence Agency, Recent Periodical Articles on  
Non-Committed Countries in South and East Asia. CR-1-3, 025, 221,  
Washington, D. C., June 28, 1962, 46 pp.  
DIA/DL  
EIF  
289,815

This bibliography lists papers on the current (1960-62) situation in the noncommitted countries either under the general section or under the individual country. References on Thailand are in each section but emphasis is politics and economics.

G332-01-03-X0 U. S. Consulate, Chiang Mai, Thailand, Report on Trip Pitsanulok, Tak  
Mae Sot. No date.  
DIA/DL  
EIF  
183,811

This report contains general descriptions of the towns, roads, and medical facilities in an area from Phitsanuloke via Tak east to Mae Sot, near the Burma border.

G333-01-03-XIC U. S. Defense Military Assistance Institute, Country Study - Thailand.  
3rd edition, Washington, D. C., July 1963, 222 pp, illus.  
LC  
D6  
.U622

This book is presented in two sections. The first section is a study of the country with respect to geography, history, government, resources, economy, and law and order. The second section is intended for use by the traveler in Thailand and describes travel, the American community, housing, food, clothing, service facilities, and language. The book presents a good general picture of the country, but no quantitative terrain data are included.

G334-01-03-XIC U. S. Defense Military Assistance Institute, Thailand, Country Study and Station Report, Washington, D. C., April 15, 1960, 141 pp.  
DIA/DL  
KIF  
373,989

This is a general reference for personnel taking a tour of duty in Thailand. Besides discussions on geography and climate, there are brief treatments of history and government, resources and economy, law and order, travel information, the American community, housing, food and clothing, public and social facilities, and language familiarization.

G335-01-03-XO U. S. Department of Defense, Office of Armed Forces Information and Education, "Southeast Asia: Area of challenge, change, and progress."  
Background, DOD Pamphlet 2-23, Washington, D. C. (August 8, 1960), 15 pp, illus, map.  
WEB  
U15  
U5

This pamphlet presents a quick general view of the countries relative to size, population, economy, and politics. The title of the publication aptly describes the article.

G336-01-04-XO U. S. Department of the Interior, Division of Geography, Preliminary NIS Gazetteer-Thailand. 2 volumes, Central Intelligence Agency, Washington, D. C., July 1952, 912 pp.  
WEB  
G104  
U5

Entries of approximately 34,000 places and features in Thailand are listed and identified, located by coordinates to the nearest minute, and referenced to a map or chart where they can be located by standard name or an easily recognized variation. A brief glossary is included

G337-01-03-XO U. S. Department of State, Fact Sheet, Mutual Security in Action, Thailand. Far Eastern Series No. 94, Department of State, Publication 7004, Office of Public Services, Bureau of Public Affairs, Washington, D. C., May 1960, folder (10 pp).  
LC  
HD497  
.S7U645  
196

This brochure gives a thumbnail sketch of Thailand, discussing trade, government, U. S. aid, education, agriculture, transportation, power, public health, and administration.

U. S. Department of State, American Consulate.

SEE: U. S. Consulate.

U. S. Department of State, American Embassy

SEE: U. S. Embassy, Thailand.

General, Text

G-338-01-04-XO U. S. Department of State, Division of Library and Reference Service,  
LC Point Four, Far East, A Selected Bibliography of Studies on Economically  
Z3001 Underdeveloped Countries. Bibliography No. 57, Washington, D. C.,  
.U5 January 15, 1951, 46 pp.

This bibliography covers all the MERS countries and contains basic economic studies issued during 1941-1951. Several of the references are of such a general nature, however, that they do provide background material on the countries.

G-339-01-04-XO U. S. Department of State, Office of Intelligence Research, Completed  
AMS External Research Far East and Asia General. External Research List \_\_\_\_\_,  
Z5055 Washington, D. C., various dates, various pages.  
U58059

This series of lists emphasizes studies in history, politics, economics, and human geography. A few items of possible value to terrain studies were noted in the lists examined (various issues in the interval 1954-58). The title varies, in part, according to the area considered.

G-340-01-04-XO U. S. Department of State, Office of Intelligence Research, External  
Research, a List of Recently Completed Studies, South Asia.  
SEE: Completed External Research Far East and Asia General, by the same  
organization.

G-341-01-03-XO U. S. Department of State, Office of Public Service, "Thailand." Back-  
ground, Publication No. 6296, Washington, D. C., March 1956, 14 pp, illus,  
map.

This very general article describes Thailand's people, history, economic situation, and the modernization of her agriculture, education, transportation, health, and armed forces. The position of Thailand in world affairs is also discussed.

G-342-01-03-XV U. S. Department of State, Thailand, Agriculture in Southeastern Thailand.  
AMS 26 June 1950, 3 pp.  
40,194

This report briefly describes the underdeveloped roads and the agricultural conditions in the provinces of Chonburi, Rayong, Chantiburi, and Trat. The 220-mile Bangkok-to-Chantiburi road is passable to passenger cars; beyond Chantiburi is the 60-mile road to Trat, which was opened in 1951. The short side roads between Chonburi and Chantiburi are passable in dry weather only by high-shouldered vehicles, due to the deep ruts. The principal crop in the area is tapioca, with jackfruit, pineapple, and sugar cane being grown to some extent.

G-343-01-05-XO U. S. Embassy, Thailand, Agriculture in the Central Region of Thailand.  
Report No. 93, August 3, 1950, 12 pp.

Not available for review.

G-344-01-03-XO U. S. Embassy, Thailand, Annual Agricultural Review, Thailand, 1952.  
DIA/DL Bangkok, Thailand, May 4, 1953, 16 pp.  
EIF  
206,743

This first of two sections deals with production, mechanization, foreign aid, and land reform. The second covers export controls, financial controls, and task and other concessions.

G345-01-03-XO U. S. Embassy, Thailand, Annual Economic Report and Financial Review - 1956. Dispatch No. 605, Bangkok, Thailand, February 25, 1957, 36 pp.  
 DIA/DL  
 EIF  
 291,258

This report discusses economic conditions and foreign trade and payments. Statistics on mining, agriculture, trade, and economic conditions supplement the text.

G346-01-03-XO U. S. Embassy, Thailand, Crop Calendar for Thailand, Bangkok, Thailand, June 23, 1954, 5 pp.  
 DIA/DL  
 EIF  
 229,233

This reference contains, in addition to the letter of transmittal signed by James T. Halpin, an abbreviated crop calendar for Thailand. The normal planting and harvesting times are given for soybeans, cotton, sweet potatoes, truck crops, peanuts, corn, and tea; varieties grown, planting methods and dates, and harvesting dates are given for rice in each of the provinces.

G347-01-03-XO U. S. Embassy, Thailand, Four Days Tour of Northeast and Northern Province of Thailand. Report No. 490, Bangkok, Thailand, January 25, 1951, 8 pp.  
 DIA/DL  
 EIF  
 138,780

Brief discussions are given of geography, irrigation, roads, communications, schools, hospitals, health problems, sugar refining, seedlac and other crops, markets, smuggling, airports, tourist facilities, military activity, politics, etc.

G348-01-03-XO U. S. Embassy, Thailand, Highways. Bangkok, Thailand, April 26, 1951, 2 pp.  
 DIA/DL  
 EIF  
 146,085

This memorandum summarizes a conversation between the U. S. Ambassador and the Thai Prime Minister on broad plans for improving the highway system of Thailand.

G349-01-03-XO U. S. Embassy, Thailand, Memorandum Concerning Trip Through Northern Thailand. Bangkok, Thailand, January 10, 1953, 1 p.  
 DIA/DL  
 EIF  
 195,814

This note summarized impressions of the country and its people during a circuitous trip through northern Thailand.

G350-01-05-XO U. S. Embassy, Thailand, Proposed Irrigation Department's Cement Plant and Other Projects. Bangkok, Thailand, December 30, 1955, 3 pp.

Not available for review.

G351-01-03-XO U. S. Embassy, Thailand, Southern Thailand\* Bangkok, Thailand, March 7, 1960, 28 pp.  
 DIA/DL  
 EIF  
 349,246

Discussions touch on the rubber and tin industries in the various provinces of Thailand. Most of the road system of the Thailand part of the peninsula is described in the inclosed road reports.

\* For official use only.

General, Text

1352-01-05-X0 U. S. Foreign Office, Report on Teak Trade of Siam. No. 357, Washington, D. C. (?), prior to 1898.

Not available for review.

G353-01-05-X0 U. S. Mutual Security Agency, Agriculture Improvement Program in Thailand. Washington, D. C. (?), n.d.

Not available for review.

G354-01-04-X0 U. S. National Commission for the United Nations Economic and Social Council, A Selected Bibliography of Books, Films, Filmstrips, Records, and Exhibitions About Asia. Washington, D. C., September 1957, 47 pp.  
LC  
Z3001  
.U56

This bibliography is divided into sections on general works, Far East, South Asia, Southeast Asia, and the Middle East. Emphasis is on politics, economics, and human geography.

G355-01-03-X0 U. S. Navy, Naval Attaché, Thailand, Status of DFS Construction Program for the Royal Thai Navy. Serial No. 103-57, Bangkok, Thailand, December 23, 1957, 4 pp.  
DIA/DL  
EIF  
311,599

This report summarizes progress on a construction program at naval facilities.

G356-01-03-XL U. S. Navy, Office of Naval Intelligence, Field Monograph of Thailand. Washington, D. C., June 23, 1941, 138 pp, illus.  
DIA/DL  
EIF  
00302

Air bases in Thailand are tabulated in this report under classes of completed airfields, airdromes, and landing ground; military air bases; actual and potential seaplane bases; and projected air stations. Geographical location, sketch map, description of surrounding topography, establishments, and available service are given for most of the bases tabulated.

G357-01-05-X0 U. S. Navy, Office of Naval Intelligence, Siam Air Bases, Air Fields, and Sea Plane Landing or Take-off Areas. Ser. 15-46, July 6, 1946.

Not available for review.

G358-02-03-X0 U. S. Operations Mission Thailand, Korat-Nongkhai Highway. Bangkok, Thailand, May 4, 1962, 12 pp, map.  
DIA/DL  
EIF  
389,894

This report is an account of the agreement between the governments concerned with the highway construction. The project is described and a detailed description of the highway is given in three sections, with divisions at Ban Phai and Udon Thani. A work plan schedule is included, along with a financial statement. A colored map, "Route map Korat to Nongkhai," at a scale of 1:250,000, dated 11/10/60, is included. It shows roads under construction, the demonstration section, various sections of the proposed highway, kilometer markings, towns along the route, 1:25,000 city plans of Nong Khai, Udon Thani, Khon Kaen, Ban Phai, and Khorat, and a few adjoining road networks. The map has no coordinates.

G359-01-03-X0 U. S. Operations Mission Thailand, Public Administration Division,  
 AMS Organizational Directory of the Government of Thailand. 5th edition,  
 JQ1774 Bangkok, Thailand, 1963, 146 pp.  
 U59  
 1963

This bilingual book gives government agencies, chiefs of the agencies, and telephone numbers of the offices.

G360-02-03-X0 U. S. Operations Mission Thailand, Public Works and Industry Division,  
 DIA/DL Master Plan for Thailand Primary Highway System. Thailand Royal Depart-  
 EIF ment of Ways, Bangkok, Thailand, Book I, February 15, 1957, 223 pp; Book  
 293,753 II, January-February-March 1957, 61 pp.

Book I reports the history, present status, and proposals for a project of highway construction sponsored jointly by the Thai government and U. S. Operations Mission. Twenty-four highways totaling 4088 kilometers are to be rebuilt in the ten years ending in 1967. Emphasis is on cost analysis. Book II contains maps, drawings, charts, schedules, tabulations, etc., supplementing the text of Book I.

G361-01-03-XVC Valkenburg, Samuel van, "Agricultural regions of Asia; part III, farther  
 LC India." Economic Geography, vol 9, No. 1, Concord, N. H. (January 1933),  
 HF1021 pp 1-18, maps.  
 .E4

The author divides the area into the geographical divisions of the western mountains, Burma Basin, Shan Plateau, Siam Basin, Inter Mekong-Menam Mountains, Mekong Region, eastern mountains, and Tonkin Plain. Each of these is discussed in terms of physical features, climate, crops, and population. A small-scale map, approximately 1:15,000,000, shows the areal extent of dense forests (tropical and mountain, and monsoon forests) teak, dry monsoon forests, rice fields, and mangroves. The article, while not quantitative, gives a good general description of the area.

G362-01-03-X0 Vincent, Frank, Jr., The Land of the White Elephant: Sights and Scenes  
 LC in Southeastern Asia. Harper and Brothers, New York, N. Y., 1874,  
 DS524 316 pp, illus, map.  
 .V76

Of principal concern are Mandalay, Rangoon, Moulmein, Penang, Malacca, Singapore, Bangkok, Siemreap, Angkor Wat, Phnom Penh, and Saigon. Brief descriptions of topography are provided for intervening overland and river journeys.

G363-01-03-X0 Weaver, Robert W., "Through unknown Thailand." Natural History, vol 65,  
 New York, N. Y. (June 1956), pp 289-295, and 336, illus.

The article is concerned with the Phi-Thong-Luang tribe in the upper Nam Nan River area.

G364-01-03-X0 Weld, S. L., Jr., Report on Cement Works Jalaprathan Cement Company,  
 DIA/DL Ltd., Bangkok, Thailand, March 18, 1959, 27 pp, illus.  
 EIF  
 332,456

Thirty-one photographs supplement the detailed description of the plant facilities and raw materials.

General, Text

G365-01-03-X0 Whitney, Caspar, Jungle Trails and Jungle People. T. Werner Laurice,  
London, England, 1905, 310 pp, illus, plates.  
LC  
DS508  
.W62

The author relates his experiences, travels, and impressions of the Far East, Sumatra, Malay, and Siam and generally describes the people and their customs. Much of the book is devoted to travels in the remote areas, but no quantitative descriptions of the environment are included.

G366-01-03-X0 Williams, Leigh, Green Prison. Jenkins and Co., London, England, 1941,  
252 pp.  
LC  
DS565  
.W55

This book was written by a man with more than 20 years of experience with an English teak firm and contains general descriptions and accounts of the problems encountered in the industry in Thailand.

G367-01-03-X0 Williams, Leigh, Mysteries of Thailand. Thacker and Co., Limited,  
Bombay, India, 1944, 256 pp.  
LC  
DS565  
.W55  
1944

This reference is the same as Leigh Williams' Green Prison.

G368-01-03-X0 Williams-Hunt, P. D. R., "Irregular earthworks in eastern Siam: an air survey." Antiquity, vol 24, No. 93, London, England (March 1950),  
pp 30-36, illus, map.

Ancient earthworks discovered by examination of aerial photographs are described.

G369-01-05-X0 Wood, Lawrence Coningsby, South Thailand, the Tip of the Tadpole's Tail.  
China Inland Mission, London, England, 1954, 32 pp, maps.

Not available for review.

G370-01-03-X0 Wood, William Alfred Rae, A History of Siam. 2d ed, Siam Barnakich Press,  
Bangkok, Thailand, 1933, 300 pp.  
State Univ. of  
Iowa Lib.  
DS571  
W6

This is a detailed summary of the political history of Thailand from 585 B.C. to 1782 A.D. with a supplement that brings it up to 1933. The events up to the 1300's are sketchy, but later history is presented in more detail.

G371-02-03-XL Woodthorpe, R. G., "The country of the Shans." The Geographical Journal,  
vol 7, No. 6, London, England (June 1896), pp 577-602, map opposite p 688,  
illus.  
AMS  
G1  
G34  
V 7

The Shan states, in addition to the well-known area of Burma, include most of Thailand north of Chiang Mai. The author includes several useful terrain descriptions in his article, especially



of the Salween and Mekong Rivers areas, although much of the information is in the form of travelog with emphasis on local color and miscellaneous observations. A map entitled "Sketch of the Shan States to illustrate the paper by Colonel R. G. Woodthorpe C. B., R.," at a scale of 1:2,000,000, shows shaded relief, drainage, and a few place names and covers 18°30'N to 24°30'N, and 96°E to 101°E. Although there is undoubtedly useful information in this article, sorting it from extraneous material would be very difficult.

G372-01-03-X0 Wynyard, Noel, Durian, A Siamese Interlude. Oxford University Press, London, England, 1939, 231 pp, illus, map.  
LC  
DS565  
.W9

This book, void of quantitative data, is a travelogue describing the author's route in Thailand, Malaya, and Burma. It is not written from a scientific viewpoint, and contains only observations on culture, points of interest, and daily routine. A small-scale map shows the author's route.

G373-01-03-X0 Young, Ernest, The Kingdom of the Yellow Robe, Archibald Constable & Company, Westminster, England, 1898, 399 pp, illus.  
LC  
DS568  
.Y7

This book on Thai culture presents a well-written description of domestic and religious rites and ceremonies, and people and their habitat.

G374-01-05-X0 Younghusband, Sir George John, Eighteen Hundred Miles on a Burmese Tat Through Burma, Siam, and the Eastern Shan States. Allen, London, England, 1888, 162 pp.

Not available for review.

G375-01-05-X0 Zadorzny, Mitchell G., Military Geography of Indochina. Report, Geography, ECD-1952, ACLA/AAG Survey 1951.

Not available for review.

G376-01-03-X0 Zimmerman, Carle C., Siam Rural Economic Survey, 1930-31. Bangkok Times Press, Limited, Bangkok, Thailand, 1931, 321 pp, illus, maps.  
LC  
HD2111  
.S525

This study attempts to show the relation of rural life in the Siamese village to national security and development of the country as a whole. Topics of discussion include the factors of income in money, and in natural goods, agricultural methods, marketing, credit for agriculture, health conditions, and regional economic problems. Statistical tables are numerous throughout.

General, Text and Maps

G377-01-03-XO                      Zimmerman, Carle Clark, "Some phases of land utilization in Siam."  
USGS                                      Geographical Review, vol 27, New York, N. Y. (July 1937), pp 378-393,  
S(221)                                      illus, maps.  
Am372

This paper describes the inhabitants of Siam and their customs and history. The included maps were taken from Wilhelm Credner's Siam das Land der Tai.

G378-01-03-XO                      Zinkin, Maurice, Asia and the West. Chatto and Windus, London, England,  
LC    1951, 300 pp, maps.  
CB251  
.Z5

This book is concerned with the political background of Asia and the roles which America and Russia will play in future developments. The first of three sections gives background information such as standards of living and ways of life, whereas the second illustrates aspects of Western influence. The third section suggests the details of economic policy for the Asian countries.

Maps

G379-03-03-XO                      California Texas Oil Company Limited, "Highway map of Thailand,"  
AMS/ML                                      1:2,300,000, 1958.  
5L-1-24.50  
84053-2.300

This colored map is in both Thai and English; however, some of the smaller towns are only in Thai. It shows the Friendship Highway, highways opened for public service, highways under construction, railways, and CALTEX outlets. A distance chart is included as in most United States road maps. The reverse side shows an enlargement of the Friendship Highway, local color photographs, and some descriptions of the photographs in Thai. The map has no coordinates.

G380-03-03-XO                      China General Staff, Land Survey Department, "French Indochina."  
AMS/ML                                      1:500,000, 1940-1941.  
2L-3-15.00 -  
27074-500

This series of 41 colored maps is printed in Chinese and covers Thailand and Indochina from north of latitude 8°N and east of longitude approximately 99°30'E. The sheet examined shows six classes of towns, postal and telegraph installations, bench marks, spot elevations, and drainage. The maps cover approximately 2 deg square and have 1-deg coordinates (based on the Paris prime meridian). Four types of symbols for roads are shown in the map, but these are not identified in the legend.

G381-03-03-XO                      Christiani and Nielsen, Limited, "Map of Krabi-Panga." 1:200,000,  
AMS/ML                                      October 28, 1938.  
5L-2-24.50 -  
100-200

This photograph negative seems to be an engineering map showing the progress of a highway construction program in southern Thailand. The map shows highways completed, highways under construction, clearing not yet done, clearing and grubbing partly completed, clearing and grubbing completed, and earthwork entirely or partly completed, but only the first two of these are apparent in the map. This could be due to the map being a photograph negative of a colored map. A quarry is shown just south of Ban Nai Yuen. The map has no coordinates.

G382-03-03-X0 Federation of Malaya Survey Department, "Thailand." 1:1,250,000, 1943.

AMS/ML  
5L-1-26.00-  
35702-1.250

This is a highway map of Thailand showing roads, tracks, railways completed and under construction, and roads under construction. International, interstate, and provincial boundaries, towns, drainage, and spot elevations are included. The map is a photocopy of a colored original and some units are indistinguishable.

G383-03-03-X0 Great Britain Foreign Office, "Railways of Indo-China, Siam, and Malaya." 1:10,000,000, London, England, 1945.

SEE: Great Britain Foreign Office, Siam Basic Handbook, London, England, 1945, 147 pp, maps.

G384-03-03-X0 Great Britain Foreign Office, "Siam administrative map showing provinces." 1:3,000,000, London, England, 1945.

SEE: Great Britain Foreign Office, Siam Basic Handbook, London, England, 1945, 147 pp, maps.

G385-03-03-X0 Great Britain Inter-Service Topographical Department, "Bridge at Tamakan." No scale, printed by Survey Detachment, Main Headquarters, Allied Forces, Southeast Asia, January 1945.

AMS/ML  
5L-2-17.00-  
82005-NS

This map was reproduced from a rough sketch (without coordinates or scale) by a recovered prisoner of war. The location appears to be approximately 30 miles north and/or east of Bangkok, Thailand. The map shows two railroad bridges crossing the river, prisoner-of-war camp, gun emplacements, Japanese Headquarters, cemetery, road, and light horse camp (about 600 horses). A large hill and observation post are shown just south of the bridges.

G386-03-05-X0 Great Britain War Office, "Kra Isthmus, suitability of country for rapid construction of airfields." 1:1,000,000, no date.

Not available for review.

G387-03-03-X0 Halpin, James T., Jr., "Map of Thailand (Siam)." 1:4,600,000, American Embassy, Bangkok, Thailand, T-3, 1952.

AMS/ML  
5L-1-26.00-  
220-4.600

This small-scale base map shows state boundary, railways, state highways (completed and proposed), towns, and drainage. No coordinates are indicated.

G388-03-03-X0 Halpin, James T., Jr., "Map of Thailand (Siam)." 1:7,250,000, American Embassy, Bangkok, Thailand, T-3, 1953.

AMS/ML  
5L-1-26.00-  
220-7.250

State boundary, towns, and drainage are shown in map. The map has no coordinates.

General, Maps

G389-03-03-X0 Han Yuan Book Company, "Map of Thailand." 1:2,500,000, Bangkok, Thailand, 1955.

AMS/ML  
5L-1-26.00-  
36326-2.500

This colored map is printed in Chinese and Thai with a translated title and legend. It covers the approximate geographic area of 4°N to 23°N and 96°E to 108°30'E and shows international and changwat boundaries, operative and proposed railroads, highways completed and under construction, navigation and air routes, populated areas of four classes, and drainage. There are 2-deg (even) coordinates.

G390-03-03-X0 Harta Genel Mudurlugu Turkey, (Turkey General Map Directorate), "Hindi Cini (Indochina-Siam)." 1:2,500,000, 1950.

AMS/ML  
2L-1-26.00-  
23001-2.500

This map in color is printed in Turkish without coordinates and covers the approximate geographic area of 8°N to 24°N and 96°E to 110°E. The legend includes international boundaries, two classes of roads, railroads, four classes of towns according to population, and drainage.

G391-03-03-X0 India Survey, "Outline map of Siam." 1:760,320, Calcutta, India, 1896.  
(Reproduced from an original supplied by the Royal Survey Department,

AMS/ML  
5L-3-29-  
82002-760

Siam.)

This set of 12 maps covers the area 1°30'S to 23°N and 97° to 109°, plus the portion of Indochina east of 109°. Drainage, lines of communication, 1-deg tick marks, and place names are shown. The spelling of names is that adopted by the Royal Geographical Society of London. Because of age, the accuracy of these maps is questionable.

G392-03-03-X0 Indo Chine, Service Geographique, "Carte de l'Indochine." 1:500,000, 1931-1942.

AMS/ML  
2L-3-26.00-  
35001-500, Category 30.5

This series of 41 monochrome and color maps is printed in French and covers Southeast Asia from approximately 8°N northward and from approximately 99°30'E eastward. The sheet examined shows five types of populated places, military posts, concessions, postal and telegraph installations, bench marks, spot elevations, communication routes, and drainage. They cover approximately 2 deg square, have 1-deg coordinates (based on the Paris prime meridian), and have bars along the sides for each 10 minutes.

G393-03-03-X0 JCL (DKK), "Myad-1, Thailand." 1:1,000,000, April 29, 1954.

AMS/ML  
5L-2-24.40-  
100-1.000

This hand-colored photograph negative portrays a reconnaissance of the roads between Bangkok, Saraburi, Khorat, Kok Chic, and Ban Phai, Thailand. The routes are defined as roads having black-top surface, graded gravel surface, and graded only; jeep trail; and no trail or road. Sections are shown where the base course is fully graded but impassable due to open culvert crossing and existing quarries. Narrow wooden bridges and low mountains are shown along the route. Towns with traveler's accommodations are indicated. No coordinates are shown.

G394-03-03-X0 Li, Murphy, (Southeast Asia in Maps), Hai Huang Press, Hong Kong, 1955-1959, various pages.

AMS  
G2361  
G1169

Various editions of this Chinese publication were examined. These small-scale maps show areas of residence of overseas Chinese, distribution of natural resources, agricultural products, import and export commodities, cultivated areas, density of population, distribution of rainfall, air communication, mineral resources, industries, fisheries, forestry, etc., in Southeast Asia. Maps at a somewhat larger scale show the same types of information for individual countries. Some of the map legends are given in both Chinese and English. The scales of maps range from 1:24,000,000 to about 1:2,000,000.

G395-03-03-X0 "Malaya." 1:2,000,000, no date (accession date September 1945).

AMS/ML  
4L-2-26.00-  
100-2.000

This map is composed of two colored sheets, is printed in Japanese, and covers Malaya, Thailand, and Indochina up to 15°20'N with the map being divided at 7°30'N. The map shows towns, drainage, country boundaries, and communication routes, including sea and air. The disputed area between Cambodia and Thailand is outlined. The map has 2-deg (even) coordinates with tick coordinates at 5-minute intervals.

G396-03-03-X0 "Map of the Kingdom of Thailand." 1:2,000,000, September 18, 1952.

AMS/ML  
5L-1-26.00-  
100-2.000

This photocopy shows provincial, district, and subdistrict headquarters; national boundary; railways; highways; and secondary roads. Towns and drainage areas and 1-deg coordinates are shown.

G397-03-03-X0 "Map of Thailand." 1:2,500,000, unpublished, Bangkok, Thailand, n.d.

SEE: Joint U. S. Military Advisory Group, Information and Statistics of Highways, Railways, and Irrigation Projects, unpublished, Bangkok, Thailand, December 14, 1954, various sections and pages.

G398-03-03-X0 "Map of Thailand." 1:2,500,000, 1958.

AMS/ML  
5L-1-24.50-  
100-2.500/2

This colored map shows national highways opened to traffic, under construction, and proposed. It also shows towns, railroads, province boundaries, major drainage, and 1-deg coordinates.

G399-03-03-X0 "Map of Thailand." 1:2,500,000, no date (accession date June 19, 1958).

AMS/ML  
5L-1-24.50-  
100-2.500

This photocopy is a highway map of Thailand showing national highways opened to traffic, under construction, and proposed, and railways. Towns and 5-deg tick coordinates are shown.

G400-03-03-X0 "Road map of Thailand." 1:1,000,000, Bangkok, Thailand, n.d.

SEE: Joint U. S. Military Advisory Group, Information and Statistics of Highways, Railways, and Irrigation Projects, unpublished, Bangkok, Thailand, December 14, 1954, various sections and pages.

General, Maps

G401-03-03-X0

AMS/ML

5L-2-24.80-

39513-500

Sifton Praed and Company, Limited, "Route from Chengmai (sic), Siam to Mandalay, Burmah (sic)." 1:500,000, London, England, 1943.

This photocopy is a route map from Chiang Mai, Thailand, to Mandalay, Burma, with campsites and the distances between campsites noted. It is indicated if the site is located in paddy or jungle, or by a river, good stream, or small stream. Generally the route conforms to trails and trade routes connecting the cities on recent maps. The larger populated places passed through are Ban Paken, Thailand, and Mong Ton, Mong Pan, Mongai, Loi-lem, Kalaw, and Thazi, Burma.

G402-03-03-X0

Smyth, Herbert Warington, "The Chief passes from Siam into Tavoi." 1:1,000,000, The Royal Geographical Society, London, England, November 1895.

SEE: Smyth, H. Warington, "Notes on a journey to some of the South-Western provinces of Siam." The Geographical Journal, vol 6, Nos. 5 and 6, London, England (November and December 1895), pp 401-421 and pp 522-545, illus, map opposite page 496.

G403-03-03-X0

Smyth, Herbert Warington, "The Siamese Malay States." 1:5,000,000, The Royal Geographical Society, London, England, November 1895.

SEE: Smyth, H. Warington, "Notes on a journey to some of the South-Western provinces of Siam." The Geographical Journal, vol 6, Nos. 5 and 6, London, England (November and December 1895), pp 401-421 and pp 522-545, illus, map opposite page 496.

G404-03-03-XS

AMS/ML

5L-1-28.00-

90200-2.900

Sresthaputra, Vija, "Map of Thailand showing principal cities and political subdivision." 1:2,900,000, plate no. 1, U. S. Geological Survey, Washington, D. C., 1951.

SEE: Brown, Glen F.; Buravas, Saman; Charaljavanaphet, Jumchet; Jalichandra, Nitipat; Johnston, William D., Jr.; Sresthaputra, Vija; and Taylor, George C., Jr.; Geological Reconnaissance of the Mineral Deposits of Thailand. U. S. Geological Survey Bulletin 984, Washington, D. C., 1951, 183 pp, illus, maps, in the Soils and Geology Section.

G405-03-03-X0

AMS/ML

5L-1-24.50-85039-2.500

5L-41-24.50-85039-20

Standard Oil Company, "Thailand." 1:2,500,000, Rand McNally and Company, New York, N. Y., 1962.

This is a colored road map distributed by the ESSO Oil Company which shows national and provincial boundaries and capitals; towns and villages; distances between junctions; railroads and airports; drainage; and main highways, secondary highways, and other roads which are paved, not paved, under construction, and proposed. A distance chart with the names of towns printed in Thai is included. A Bangkok and Thonburi, Thailand, street map at a scale of 1:20,000 is shown on the reverse side and includes principal points of interest, parks, and principal buildings. The map has no coordinates.

G406-03-03-X0

AMS/ML

5L-1-24.50-85035-2.500

5L-21-24.50-85035-20

Standard Vacuum Oil Company, "Thailand." 1:2,500,000, Rand McNally and Company, New York, N. Y., 1960.

Best Available Copy

This is a colored road map distributed by the Mobil Oil Company which shows national and provincial boundaries and capitals; towns and villages; distances between junctions; railroads and airports; drainage; and main highways, secondary highways, and other roads which are paved, not paved, under construction, and proposed. A distance chart with the names of towns printed in Thai is included. A Bangkok and Thonburi, Thailand, street map at a scale of 1:20,000 is shown on the reverse side which includes points of interest, parks, and principal buildings. The map has no coordinates.

0407-03-03-X0 "Thailand." 1:2,250,000, no date (accession date 1949).

AME/NE

5L-1-26.00-100-2.250

3U-2-23.50-100-2.250

This map covers Thailand and a narrow strip outside its boundaries. It shows three undefined classes of towns, drainage, the major road system, and railroads. Most of the town names are in English but some are in Japanese. The roads and railroads are defined in Japanese. The map has 5-deg French coordinates with bars at each 6 minutes.

0408-03-03-X0 "Thailand." 1:2,500,000, no date (accession date March 4, 1959).

AME/NE

5L-1-24.50-

100-2.500/2

This osalid map is basically a transportation map of Thailand showing state highways opened to traffic and under construction, state railways, international and province boundaries, and aerodromes. Towns and drainage are included. The map has 1-deg tick coordinates.

0409-03-03-X0 Thailand Cadastral Survey Office, "Thailand." 1:2,500,000, Bangkok, Thailand, 1949.

AME/NE

5L-1-23.50-

36317-2.500

This is a base map of Thailand with 1-deg tick coordinates showing country borders, province capitals, towns, drainage, and railroads.

0410-03-03-X0 Thailand Ministry of Agriculture, "Farm experiment stations." 1:5,500,000 (approx), Bangkok, Thailand, 1957.

SEE: Thailand Ministry of Agriculture, Agriculture in Thailand, Bangkok, Thailand, 1957, 263 pp, illus, maps.

0411-03-03-X0 Thailand Postal and Telegraph Department, "Communications map - northern region." 1:1,000,000, Bangkok, Thailand, 1953.

AME/NE

5L-2-26.000-

36320-1.000

This photocopy covers Thailand from its western border to 102°E and from its northern border to 15°N. This map shows in detail (printed in Thai) the lines and installations of the postal, telephone, and telegraph networks, except for an English title and legend (which is not legible). The map has 1-deg coordinates.

0412-03-03-X0 Thailand Royal Department of Ways, "Thailand showing route numbers of national highways." 1:2,500,000, Bangkok, Thailand, 1961.

AME/NE

5L-1-24.50-

36305-2.500

General, Maps

SEE: Thailand Royal Department of Ways, List and Route Numbers of Thailand National Highways. Bangkok, Thailand, 1961, 8 pp, map.

G413-03-03-X0

Thailand Royal Department of Ways, Technical Services, "Map of Thailand showing roads." 1:2,500,000, Bangkok, Thailand, 1949.

AMS/ML

5L-1-24.50-

36305-

2.500/3

This colored map shows railroads and roads. The roads are shown as opened for public service, under construction, or proposed. The map has no coordinates.

G414-03-03-X0

Thailand Royal Hydrographic Service, "Map of Thailand." 1:2,500,000, Bangkok, Thailand, September 1955.

AMS/ML

5L-1-26.00-

36307-2.500

This colored map is printed in Thai with the title, legend, and major towns translated into English. State highways and railways opened to traffic and under construction, international and province boundaries, and aerodromes are shown. Towns and drainage are included. Coordinates are located at 5, 9, 13, 17, and 21°N and 10° and 10° E with ticks at each degree.

G415-03-03-X0

Thailand Royal State Railways, "Map of Thailand." 1:5,000,000, Bangkok, Thailand, December 25, 1961.

AMS/ML

5L-1-26.00-

36355-5.000

This is a photocopy of a map without coordinates printed in Thai and English. The map shows state railways opened to traffic, under construction, proposed under a 10-year program, and proposed under a 25-year program; railways of neighboring countries; airline routes; and state and provincial highways opened to traffic and under construction. Towns, drainage, and international boundaries are included.

G416-03-03-X0

Thailand Royal Survey Department, "Thailand." 1:250,000, Bangkok, Thailand, 1952.

AMS/ML

5L-23-30.00-

36301-250

These six colored sheets are printed in Thai and cover the geographic area of 19°45'N to 22°15'N and 97°E to 102°E. The maps show four classes of roads, three classes of towns, political boundaries, and drainage. The sheets cover 15 minutes of latitude and 1 deg 40 minutes of longitude. Only corner coordinates are shown.

G417-03-03-XHC

United Nations, "Extent and priority of leveling." 1:4,580,000, Bangkok, Thailand, 1958.

SEE: United Nations Survey Mission, Lower Mekong River Basin, Program of Studies and Investigations for Comprehensive Development, Lower Mekong River Basin. TAA/AFE/3, January 23, 1958, Bangkok, Thailand, 42 pp, maps.

G418-03-03-XHC

United Nations, "Location and priority of surveys and mapping." 1:4,580,000, Bangkok, Thailand, 1958.

SEE: United Nations Survey Mission, Lower Mekong River Basin, Program of Studies and Investigations for Comprehensive Development, Lower Mekong River Basin. TAA/AFE/3, January 23, 1958, Bangkok, Thailand, 42 pp, maps.



G419-03-03-XO U. S. Army Map Service, CE, "Laos photomaps." 1:50,000 (approximately),  
AMS/Series Washington, D. C., 1961.  
L004

The 124 sheets in this series are on a transverse mercator projection, were prepared from available aerial photography, and cover those portions of Laos not covered by the AMS, L7012, 1:50,000 series which includes parts of the Thai-Laos border. Color is used in the photomaps to show all-weather hard- and loose-surface roads one lane (2.4 meters) and two lanes wide, fair- or dry-weather loose-surface roads, cart tracks, footpaths or trails, settlement areas with name, route markers, international and provincial boundaries, wats or temples, Christian churches, drainage with name, bridges, ferrys, fords, marsh or swamp, and spot elevations. The sheets cover 10 minutes of latitude and 15 minutes of longitude and have internal crosses at each 5 minutes. A military grid is superimposed and a glossary is included.

G420-03-03-XO U. S. Army Map Service, CE, "Thailand." 1:12,500, Washington, D. C.,  
AMS/Series 1961.  
L002

The eight photomaps, prepared from 1957 aerial photography, in this series are on a transverse mercator projection, and cover the geographic area of 13°39'N to 15°50'N and 100°29'E to 100°38'E with the exception of the northeast one-ninth of the area. In addition to the base photography, primary and secondary administrative divisions, selected cultural features, drainage, and communication routes are named. Important cultural features are numbered and defined in the map margins. The maps have corner coordinates, internal crosses at each minute, and the military grid.

G421-03-03-XO U. S. Army Map Service, CE, "Thailand photomaps." 1:50,000 (approx-  
AMS/Series mately), Washington, D. C., 1961-1963.  
L003

The eight maps in this series are on a transverse mercator projection, were prepared from 1954 and 1958 aerial photography and small-scale maps, and cover portions of the Thai-Laos border not covered by the AMS, L708, 1:50,000 series. Color is used in the photomaps to show all-weather hard- and loose-surface roads one lane (2.4 meters) and two lanes wide, fair- or dry-weather loose-surface roads, cart tracks, footpaths or trails, settlement areas with name, route markers, international and provincial boundaries, wats or temples, Christian churches, drainage with name, bridges, ferrys, fords, marsh or swamp, and spot elevations. The sheets cover 10 minutes of latitude and 15 minutes of longitude and have internal crosses at each 5 minutes. A military grid is superimposed and a glossary is included.

G422-03-03-XO U. S. Army Map Service, CE, Geographic Names Branch, Administrative  
AMS Divisions of Thailand, Showing Changwat, Amphoe, and King Amphoe  
G2376 Boundaries. Washington, D. C., 1959, 8 maps.  
F7u58

These maps are based on information obtained from the Thailand Royal Survey Department and Royal Thai Government Gazette, as of February 1959. The maps show only the administrative divisions mentioned in the title.

G423-03-03-XO U. S. Army Military Attaché, Chungking, China, "Routes Siam-Indochina."  
AMS/ML 1:2,750,000, May 26, 1945.  
5L-1-26.00-91816-2.750  
2L-1-26.00-91816-2.750

This colored manuscript map covers the geographic area of 8°N to 24°N and 97°E to 110°E. It was prepared from information furnished by Allied agencies in the India, Burma, and China theaters and shows all-weather and fair-weather roads, cart and animal tracks, colonial route numbers, roads under construction and proposed, railroads, streams, canals, and international boundaries. The old Thai-Cambodia and Thai-Laos borders are shown. The map has 2-deg (even) coordinates.

General, Maps

G424-03-03-XO U. S. Army War College, "Thailand - Indo China." 1:6,336,000, Washington, D. C., November 25, 1941.

AMS/ML  
2L-1-25.50-  
90000-6.336

This map shows international boundaries, railways, highways, towns, important centers without known airfields, aerodromes, landing ground, projected landing ground, seaplane stations, seaplane alighting areas, drainage, and areas ceded to Thailand in 1941. The map has 2-deg (even) coordinates with bars indicating each 20 minutes.

G425-03-03-XHSL U. S. Bureau of Reclamation, "Transmissions system investigations Yankee Power Project-Thailand map of Central Thailand." 1:2,380,000, Denver, Colo., January 1954.

SEE: U. S. Bureau of Reclamation, Report on Yankee Project, Thailand for Power, Irrigation, Flood Control & Navigation. Prepared for the Royal Irrigation Department of Thailand, Denver, Colo., December 1955, two volumes, illus, maps in the Hydrology section.

G426-03-03-XHSL U. S. Bureau of Reclamation, "Yankee Project-Thailand location and key maps." 1:4,000,000, Denver, Colo., June 1, 1954.

SEE: U. S. Bureau of Reclamation, Report on Yankee Project, Thailand for Power, Irrigation, Flood Control & Navigation. Prepared for the Royal Irrigation Department of Thailand, Denver, Colo., December 1955, two volumes, illus, maps in the Hydrology section.

G427-03-03-XO U. S. Division of Geography, "Kra Canal." 1:750,000, 1942.

CIA/ML  
H503-14

The proposed canal route includes the area from 10°N to 10°45'N and 98°30'E to 99°30'E. The route and major drainage are shown in the map.

G428-03-03-XO U. S. Geological Survey, Military Geology Branch, for Office, Chief of Engineers, "Thailand." 1:2,000,000, Washington, D. C., November 1959.

AMS/ML  
5L-1-28.00-  
90183-2.000

This colored map shows international, phak, and changwat boundaries; national capital; phak and changwat administrative centers; towns; railroads; roads and tracks or trails; and drainage. A phak is a combination of several changwats and there are nine phak in Thailand. The map has a 2-deg (even) coordinates and appears to be a fairly detailed base map of the country.

G429-03-03-XO U. S. Geological Survey, Military Geology Branch, for Office, Chief of Engineers, "Thailand." 1:5,600,000, Washington, D. C., May 1960.

AMS/ML  
5L-1-26.00-  
90183-5.600

This colored map shows international boundaries, national capital, towns, railroads, roads, tracks or trails, and major drainage. The map has 4-deg (even) coordinates.

G430-03-03-XO U. S. Office of Strategic Services, Research and Analysis Branch, "Malaya and Southern Thailand tele-communications."\* 1:1,800,000, July 20, 1945.

AMS/ML  
5L-1-26.00-90560-1.800  
4L-1-26.00-90560-1.800

\* For official use only.

This colored communications map covers the peninsula from 1°N to 8°15'N and shows road-side telegraph and telephone lines; road-side telephone and telegraph lines, existence doubtful; rail-side telegraph and telephone lines; telephone exchange; telephone terminal; wireless station; submarine cable, prior to war; and radar station, as of February 1945. Country boundaries, towns, drainage, and notes indicating where the rail system may be inoperative are shown as general information.

G431-03-03-X0

U. S. Operations Mission Thailand, "Route map Korat to Nongkai."

1:250,000, Bangkok, Thailand, 10 November 1960.

AMS/ML

5L-2-24.50-

90204-250

SEE: U. S. Operations Mission Thailand, Korat-Nongkai Highway, Bangkok, Thailand, May 4, 1962, 12 pp; map.

G432-03-03-X0

U. S. Operations Mission Thailand, Public Works and Engineering Division,

"Map of Thailand." 1:1,000,000, January 15, 1959.

AMS/ML

5L-1-24.50-

90204-4.000

This hand-colored ozalid map shows the locations of the U. S. Operations Mission Thailand projects. These are highways completed or under construction and engineering proposed, highway bridge replacement, airports, electrical power plant, Mekong River ferry slip, tanks in groups of 10, wells in groups of 10, and water supply systems in the northeast. All-weather and dry-weather roads, railways, larger towns, and major drainage are included.

G433-03-03-X0

U. S. Operations Mission Thailand, Public Works and Engineering Division,

"Map of Thailand." 1:2,500,000, June 18, 1959.

AMS/ML

5L-1-26.00-

90204-2.500

This photocopy shows highways paved and open to traffic, unpaved, under construction, and proposed; railroads; international and provincial boundaries; country capitals, towns, villages; airports; and rivers. A distance chart is included.

G434-03-03-X0

U. S. Operations Mission Thailand, Public Works and Engineering Division,

"Map of Thailand." 1:4,400,000, September 15, 1960.

AMS/ML

5L-1-7.00-

90204-4.400

This colored map shows the locations of major U. S. Operations Mission Thailand projects. These are highways completed or under construction and planned, bridge replacement, airport development, groundwater exploration, livestock improvement, rural youth programs, Southeast Asia Treaty Organization skilled labor schools, health improvement, and public administration and statistical services. Various other projects are listed for specific areas or cities. Some towns are shown in the map.

G435-03-03-X0

U. S. Operations Mission Thailand, Public Works and Engineering Division,

"Map of Thailand." 1:3,950,000, June 13, 1962.

AMS/ML

5L-1-24.50-

90204-3.950

This colored map shows the locations of U. S. Operations Mission Thailand projects. These are highways completed or under construction, highway engineering, bridge replacement, airport development, power, tanks for irrigation, groundwater exploration, water supply systems, mineral exploration, and irrigation projects exclusive of the Mekong River. Highways opened to traffic, proposed, or under construction; state railways; towns; and drainage are shown.

General, Maps

G436-03-03-X0 U. S. Operations Mission Thailand, Public Works and Engineering Division,  
"Map of Thailand." 1:2,500,000, February 5, 1963.  
AMS/ML  
5L-1-26.00-  
90204-2.500/2

This ozalid map shows highways opened to traffic, under construction, or proposed; country and provincial boundaries and capitals; railways, towns; villages; airports; drainage; and spot elevations.

G437-03-03-X0 U. S. Operations Mission Thailand, Public Works and Engineering Division,  
"Map of Thailand." 1:2,500,000, no date.  
AMS/ML  
5L-1-28.00-  
90204-2.500

This blue line base map has provincial boundaries and province capital locations. The country is divided into nine regions, or phaks, and the 71 provinces are listed. The map has 2-deg (odd) coordinates.

G438-03-03-X0 U. S. War Department, "Thailand (Siam)." 1:2,250,000, no date (accession date 1941).  
AMS/ML  
5L-1-26.00-90085-2.250  
2L-1-26.00-90085-2.250

This map covers the geographic area of 5°N to 21°N and 97°E to 106°E. The following information is shown: international and provincial boundaries; telegraph lines; provincial, changwat, and amphoe headquarters; villages; railways completed, under construction, and proposed; roads with telegraph lines; cart tracks, and bridle paths; rivers or streams; radio stations, telegraph offices, and telegraph and telephone offices; customs aerodromes and military aerodromes not opened for public use; civil aerodromes opened for public use, not opened for public use, and under construction; and seaplane anchorages not opened for public use. The map has 1-deg coordinates.

G439-03-03-X0 Wainunawin, W., "Thailand." 1:2,500,000, Bangkok, Thailand, January 23, 1948.  
AMS/ML  
5L-1-26.00-  
36312-2.500

This colored map is printed in Thai with the title and legend translated into English. It shows state highways and railways opened to traffic and under construction, state and changwat boundaries, and airports. Towns and drainage are included as general information. The map has 1-deg tick coordinates.

G440-03-03-X0 Woodthorpe, R. G., "Sketch map of the Shan States." 1:2,000,000, The Royal Geographic Society, London, England, June 1896.  
SEE: Woodthorpe, R. G., "The country of the Shans." The Geographical Journal, vol 7, No. 6, London, England (June 1896), pp 577-602, illus, map opposite p 688.

**SURFACE GEOMETRY SECTION**

Text

L1-01-01-XVH                      Allied Geographical Section, Southwest Pacific Area, Ad Hoc Report, Siam  
DIA/DL                              Report No. 10. July 12, 1944, 18 pp.  
EIF  
323067

This report, with the exception of parts on Bandaun, Surat Thani, deals with the province of Pangnga in peninsular Thailand, especially the coastal areas and the cities of Takua Pa and Talat Yai. It is divided into an introduction and sections on beaches, entrances and channels, landing places, roads, paths, dredges, and possible airfield sites. Qualitative descriptions are good, and some quantitative data on stream depths and height of vegetation are included.

L2-01-02-XGV                      Anderson, J. P., "A journey along a part of the Siam-Burma frontier."  
                                        Journal of Siam Society, vol 18, Part 2, Bangkok, Thailand (1924), pp 111-  
                                        134, illus, map.

L3-01-02-XO                        Andrews, G. S., Surveys and Mapping Requirements for Development Planning  
AMS                                   Lower Mekong River Southeast Asia. Department of Lands and Forest, Vic-  
GA56                                  toria, B. C., Canada, October 1958, 49 pp.  
A56

The four parts of this report present a description of the Lower Mekong River project and participating agencies; existing maps, surveys, and aerial photographs in the field of cartography and geodesy; the Wheeler report of the United Nations Survey Mission, 1958; and proposed work.

L4-01-02-XGSVHC                      Blanchard, Wendell, Thailand, Its People, Its Society, Its Culture. HRAF  
                                        Press, New Haven, Conn., 1957, 258 pp, maps.

L5-01-02-XGV                        Bourke-Borrows, D., "Siam." Journal of the Central Asian Society, vol  
                                        15, Part 3, London, England (1928), pp 305-323.

L6-01-02-XV                        Bourke-Borrows, D. R. S., "The teak industry of Siam." Technical and  
                                        Scientific Supplement to the Record, No. 3, Siam Ministry of Commerce and  
                                        Communications, Bangkok, Siam (October 1927), 52 pp, illus, map.

L7-01-02-XGSVHC                      Bowring, Sir John, The Kingdom and People of Siam; with a Narrative to  
                                        the Mission to That Country in 1855, 2 volumes, John W. Parker and Son,  
                                        London, England, 1857, 482 and 446 pp, illus, map.

L8-02-02-XSC                        Brown, Glen F.; Buravas, Saman; Charaljavanaphet, Junchet; Jalichandra,  
                                        Nitipat; Johnston, William D., Jr.; Sresthaputra, Vija; and Taylor,  
                                        George C., Jr., Geologic Reconnaissance of the Mineral Deposits of Thai-  
                                        land. U. S. Geological Survey Bulletin 984, Washington, D. C., 1951,  
                                        183 pp, illus, maps.

L9-01-01-XVH                        Burton, Robert E., "The rice toilers of Thailand." Pacific Discovery,  
                                        vol 13, No. 5, Berkeley, Calif. (September-October 1960), pp 4-15, map.

- L10-01-02-XGVC      Corner, Julia, China: Pictorial, Descriptive, and Historical with Some Account of Ava and the Burmese, Siam, and Annam. Henry G. Bohn, London, England, 1853, 521 pp, illus, map.
- L11-01-02-XS      Credner, Wilhelm, "Problems of geomorphology in Siam." Journal of Siam Society, vol 8, No. 1, Bangkok, Siam (1929), pp 25-40.
- LC  
Qh1  
.T5
- The first part of this paper is a general treatment of the constructive and destructive forces involved in geomorphic processes with examples from the various regions of Thailand. The author then proceeds to explain four impressive morphological features of the country: (1) the predominance of wide plains, (2) parallel mountain ranges, (3) the very steep slopes rising from plains to the ranges, and (4) the remnants of plains or of flat, mountainous country in the higher altitudes. The effects of geological structure, rainfall, and faulting on each morphological feature are discussed in general terms.
- L12-02-02-XGSVHC      Credner, Wilhelm, Siam, das Land der Tai. J. Engelhorn's Nachf., Stuttgart, Germany, 1935, 422 pp, illus, maps.
- L13-01-02-XGSVHC      Credner, Wilhelm, Siam, das Land der Tai. (Translated by Miss Collmann, Army Map Service.) 1959, 84 pp.
- L14-01-02-XGSVHC      Dobby, Ernest Henry George, Monsoon Asia. Quadrangle Books, Inc., Chicago, Ill., 1961, 381 pp, illus, maps.
- L15-01-02-XGSVHC      Dobby, Ernest Henry George, Southeast Asia, 7th ed., University of London Press, Ltd., London, England, 1960, 415 pp, illus, maps.
- L16-01-02-XG      Foxworthy, F. W., "Commercial timber trees of the Malay Peninsula." Malayan Forest Records, No. 3, Federated Malay States Forest Department, Singapore, (1927) 195 pp, illus, map.
- LC  
SD97  
.M3A33
- L17-01-02-XGSVHC      Graham, Walter Armstrong, Siam: A Handbook of Practical, Commercial and Political Information. 2d ed., Alexander Moring, Limited, London, England, 1912, 637 pp, illus, map.
- L18-01-02-XO      Great Britain Army, Far East Land Forces, Specifications for the Compilation, Drawing, and Reproduction of Series L7010 Malaya, 1:63,360. Survey Directive No. 24, Singapore, November 1961, 13 pp, maps.
- AMS  
GS1203.7  
G78

The report presents general background, sheet lines and numbering, detailed specifications, and distribution of specifications. Annexes show series index, specimen map, conventional signs and line weights, and type styles. The series will cover Singapore, Malaya, and Thailand up to 6°50'N latitude where it joins the Thailand L708 series (1:50,000).

L19-01-02-XGV Great Britain Interservice Topographical Department, Southeast Asia Command, Siam Roads - Kanburi to Bon Fong, Three Pagodas Pass to Kanburi, and Lam Poeng to Kemapyu. 1946-47, 23 pp, maps.

L20-01-02-XO India Geological Survey, Strategic Branch, Coastal Types of South East Asia. Technical Note No. 54, Calcutta, India, 1945, N. P. illus, maps.  
AMS/DL  
EIF  
00214

This report classifies and describes from the viewpoint of military operations the main coastal types in Southeast Asia. After discussing the various factors involved, each is illustrated by sketch maps and photographs. A total of 11 major types of coasts is included together with 16 maps varying in scale from 1:63,360 to 1:1,000,000 and 66 aerial photographs.

The study concentrating on the coastal areas between Arakan, Burma, and Singapore only occasionally refers to the coasts of East Malaya, Thailand, and French Indochina.

L21-01-05-XO International Geographical Union and Science Council of Japan, "A symposium on the geography of Southeast Asia." Proceedings of IGU Regional Conference in Japan 1957. Tokyo, Japan (1959), pp 573-604.  
AMS  
056  
171  
1957

Not available for review.

L22-01-01-XHSC Kheosiplard, Pard, "Irrigation in Siam." Reclamation Era, vol 33, Washington, D. C. (April 1947), p 95.

L23-01-02-XG Lamington, Lord, "Journey through the Trans-Salwin Shan States to Tong-King." Proceedings of the Royal Geographical Society and Monthly Record of Geography, vol 12, No. 13, London, England (December 1931), pp 701-722, map.

L24-01-01-XO Landers, William E., Mapping Activities in the Far East. 1958, 23 pp.

This report lists the official mapping agencies, status of mapping, and various classes and subclasses of map accuracy for the Far East, including Southeast Asia.

L25-01-02-XO Lobeck, Armin Khol, Physiographic Diagram of Asia. The Geographic Press, Columbia University, New York, N. Y., 1945, 8 pp, map.  
LC/ML

The Northern Shield and Plains, Central and Southern Massives, and Alpine-Himalayan-Island Arc system are described. The accompanying map, "Physiographic provinces of Asia," has a scale of 1:20,000,000 and has some descriptive data. It shows the major subdivisions and numerous others units within these subdivisions. Each subdivision is briefly described and the major features are pointed out.

L26-01-02-XS Louis, Henry. "The ruby and sapphire deposits of Moung Klung, Siam." The Mineralogical Magazine and Journal of the Mineralogical Society, vol 10, No. 48, London, England (July 1932), pp 267-272.



L27-01-02-XB Louis, Herbert, "Beobachtungen uber die Inselberge bei Hua-Hin and Golf von Siam." (Observations on inselbergs near Hua-Hin at the Gulf of Siam.)  
 AMS  
 G1 Erdkunde, vol 13, No. 4, Bonn, Germany (December 1959), pp 314-319. (In  
 B66 German with English summary.)

L28-01-02-XG Lyde, Lionel William, The Continent of Asia. Macmillan and Co., Ltd., London, England, 1933, 77 pp, maps.

L29-02-02-XG Madrolle, Claudius, The Madrolle Guides, Indochina. Societe d'Editions Geographiques, Maritimes et Coloniales, Paris, France, 1939, 280 pp, illus, maps.

L30-01-02-XGSHC McCarthy, James, Surveying and Exploring in Siam, J. Murray, London, England, 1900, 215 pp, maps, charts.

L31-01-02-XO McGill, John T., "Map of coastal landforms of the world." The Geographical Review, vol 48, No. 3, Burlington, Vt. (July 1958), pp 402-405,  
 WES separate map.  
 G1  
 G4

This brief article explains the steps traversed during the preparation of the accompanying map and is presented in two sections, i.e. source materials and classification. Source materials were many and varied with several earlier landform maps being used; some 1000 references were compiled during the study. The classification section expands the map legend and explains the basic methods of portrayal. The resulting map, "Coastal landforms of the world," having a scale of 1:25,000,000, is admitted to be only a first approximation but should be of immense value to future workers in the field of coastal classification. It is in color and shows forty landforms and numerous selected shore features. The landforms are tabulated within the categories of constructional and destructional lowlands and uplands and further subdivided according to the principal shaping agent, i.e. ice (existing glaciers), glaciers, running water, coral, and volcanism. The selected shore features are categorized according to constructional and destructional backshore, foreshore, and offshore features and further subdivided according to the principal shaping agent, i.e. sea, wind, coral, and vegetation. The map is very detailed for scale of presentation and the majority of the coasts are characterized by complex combinations of both the landforms and associated shore features.

L32-01-04-XC McGill, John T., Selected Bibliography of Coastal Geomorphology of the World. Prepared for Geography Branch, Office of Naval Research, University of California Press, Los Angeles, Calif., 1960, 50 pp.  
 LC  
 B6004  
 .P382

This bibliography contains 933 references and is divided into regional and topical sections. The references relating to Southeast Asia are general in nature and less than 20 are included. The references in this bibliography were compiled during the author's compilation of the "Map of coastal landforms of the world."

L33-01-02-XGSHC Muttonson, R. Y., The Physical Environment and Agriculture of Thailand. American Institute of Crop Ecology, Washington, D. C., 1963, 256 pp.

L34-01-02-XGSHC Pacific Science Congress, 9th, Bangkok, Thailand, Thailand, Past, and Present. Bangkok, Thailand, 1977, 193 pp, map.

- L35-01-02-XGSVHC Pendleton, Robert Larimore, Thailand, Aspects of Landscape and Life. Duell, Sloan, and Pearce, New York, N. Y., 1962, 231 pp, maps, and illus.
- L36-02-02-XVSC Royen, William van, "The agricultural resources of the world." Atlas of the World's Resources, vol 1, Prentice-Hall, Inc., for the University of Maryland, New York, N. Y. (1954), 257 pp, maps.
- AMC  
G1046  
G1041  
V.1
- L37-02-01-XO Rula, A. A., Grabau, W. E., Orvedal, A. C., Harden, H. W., Ansted, G. W., and Czako, T. F., Environmental Factors Affecting Ground Mobility in Thailand; Preliminary Survey. Technical Report No. 5-625, Vicksburg, Miss., May 1963, 66 pp, illus, maps, appendixes.
- SEE: U. S. Army Engineer Waterways Experiment Station, CE, Environmental Factors Affecting Ground Mobility in Thailand; Preliminary Survey. Technical Report No. 5-625, Vicksburg, Miss., May 1963, 66 pp, illus, maps, appendixes.
- L38-01-02-XG Smyth, Herbert Warington, Five Years in Siam for 1891-1896. 2 volumes, John Murray, London, England, 1898, 667 pp, illus, maps.
- LC  
DS565  
.S65
- L39-01-02-XGS Smyth, Herbert Warington, Notes of a Journey on the Upper Mekong, Siam. John Murray, London, England (published for the Royal Geographical Society), 1895, 109 pp, illus, maps.
- L40-01-02-XGSC Spencer, Joseph Earle, Asia East by South. John Wiley and Sons, Inc., New York, N. Y., 1954, 453 pp, illus, maps.
- L41-01-02-XG Overdrup and Parcel Engineering Company, Report of Reconnaissance North-east Highway Thailand Road Program Saraburi-Korat-Banphai, prepared for Thailand Ministry of Communications, St. Louis, Mo., November 30, 1954, 37 pp, illus, map.
- L42-01-02-XSVH Terrain Features, Thailand. Intelligence Estimate, annex A.1, April 1959, 17 pp.
- DIA/DL  
EIF  
335,062
- This report covers the northern, northeastern, and central plain portions of Thailand. The first is described in general terms while the remaining two are discussed in terms of physiography, vegetation, drainage, soils and trafficability, water resources, construction materials, and combat operations. These descriptions are brief and sometimes general, but provide an excellent description of the country with respect to the various facets presented. A final section briefly describes Thailand's borders.
- L43-01-02-XSC Thailand Department of Commercial Intelligence, Thailand Nature and Industry, II, Physical Features, Geology, and Climate. Bangkok, Thailand, September 1951, 43 pp, illus.
- LC  
DS562  
.T52

This is a revision of parts of an earlier edition.

SEE: Thailand Ministry of Commerce and Communication, Siam Nature and Industry, Bangkok Times Press, Ltd., Bangkok, Thailand, November 1930, 323 pp, illus, maps, in the General Section.

L44-02-02-XGSV

Thailand Ministry of Commerce and Communications, Report on a Tour in the Provinces of Chumpawn, Langsuan, and Surat, and Summary of Tour with General Notes, (December 25, 1926 to April 21, 1927). Bangkok Times Press, Ltd., Bangkok, Thailand, September 1928 and March 1929, 13 pp, illus, map, reprinted from The Record, Nos. 29 and 30, Bangkok, Thailand, September and October 1928.

L45-01-02-XGSVHC

Thailand Ministry of Commerce and Communications, Siam Nature and Industry. Bangkok Times Press, Ltd., Bangkok, Thailand, November 1930, 323 pp, illus, maps.

L45-01-02-X0

AMS  
GAL55  
T3T36

Thailand Royal Survey Department, Kruang Mai Phaen Thi. (Map symbols translated by Royal Thai Embassy and Royal Thai Army, 1954, 57 pp), Bangkok, Thailand, 1950.

All map symbols used in Thailand are defined and illustrated in this book.

L47-02-02-XC

U. S. Army Air Forces, Headquarters, Climate of Bangkok (Thailand). General Climatic Information Guide No. 75, Washington, D. C., December 1943, 4 pp, maps.

L48-02-01-XHVCS

U. S. Army Engineer Waterways Experiment Station, CE, Environmental Factors Affecting Ground Mobility in Thailand; Preliminary Survey. Technical Report No. 5-625, Vicksburg, Miss., May 1963, 66 pp, illus, maps, appendixes.

This report presents the results of a preliminary investigation to provide guidance for a planned, longer range research program to develop and apply new and existing methods for measuring and predicting the effects of environmental factors on ground mobility in Southeast Asia. The data were collected by various indigenous Thais and U. S. personnel on temporary duty in Thailand during the period of 28 May through 31 October 1962. It summarizes environmental factors affecting ground mobility and presents methods for measuring and presenting these parameters. Landscape types and subunits are defined for parts of Thailand and some estimates of probable effects of the terrain factors on ground vehicle mobility are made for each. Photographs and stereopairs are used to illustrate the various landscape types and detailed quantitative data supplement the text. Eight appendixes, published in separate volumes, give results of a literature and data survey; methods of measurement, data tabulation, and graphic presentation for the terrain factors of soil classification, soil trafficability, vegetation, surface geometry, hydrologic geometry, and weather and climate; and an evaluation of the roads traveled during data collection. Data collection location maps are included for each of the factors.

L49-01-02-XGSVHC

U. S. Army Map Service, CE, The Military Geography of Southeast Asia and Australasia. Engineer Intelligence Survey 85-56, Washington, D. C., May 1957, 20 pp, illus, maps.

L50-01-02-XGVH

U. S. Army Map Service, CE, Far East Road Reconnaissance Report No 1962, Bangkok, Thailand, various dates, various pages.

- L51-01-01-XO U. S. Army Military Attaché, Thailand, Progress Report, U. S. - Thai Mapping Project. Report No. R-22-54, February 15, 1954, 1 p, map.  
DL/DL  
ELF  
22, 16
- L52-01-02-XCSVII U. S. Army Quartermaster General, Research and Development Division, Environment of Southeast Asia. Environment Protection Division Report No. 219, Natick, Mass., August 1953, 15 pp, illus, maps.
- L53-01-02-XHC U. S. Bureau of Reclamation, Report on Yanhee Project, Thailand for Power, Irrigation, Flood Control & Navigation. Prepared for the Royal Irrigation Department of Thailand, Denver, Colo., December 1955, 2 volumes, illus, maps.
- L54-01-01-XGC U. S. Defense Military Assistance Institute, Country Study - Thailand. 3d edition, Washington, D. C., July 1963, 222 pp, illus.
- L55-01-02-XGC U. S. Defense Military Assistance Institute, Thailand Country Study and Station Report. Washington, D. C., April 15, 1960, 141 pp.
- L56-01-01-XH U. S. Navy, Naval Attache, South Vietnam, Southeast Asia: The Mekong Aerial Survey Project. Serial No. 276-60, December 23, 1960, 10 pp.
- L57-01-02-XC U. S. Navy, Office of Naval Intelligence, Field Monograph of Thailand. Washington, D. C., June 23, 1941, 138 pp, illus.
- L58-01-01-XSVHC University of Michigan, Department of Geography, Analysis of Geographic and Climatic Factors in Coastal Southeast Asia. Office of Research Administration Report No. 04231-1-F, Ann Arbor, Mich., March 1962, 178 pp, maps.  
(Prepared under U. S. Army Quartermaster Research and Development Command Contract No. DA-19-129-QM-1655)

This paper describes a 50-mile-wide strip around the coast of Southeast Asia from Pakistan to China. The topics included are: offshore water depths, coastal analysis, land surface with separate studies of relative relief and slope angles, climate and weather with detailed statistics of some weather stations, vegetative cover with a special study of trafficability of rice paddies in Malaya, soils described by separate countries, a quantified study of the road system with a new technique for appraisal, and native animals and diseases of importance to military operations.

Five maps at an approximate scale of 1:14,400,000 generally applicable to a terrain study of Thailand are included. The first map, "Southeast Asia average precipitation and prevailing surface wind June July August," has isohyetal lines at the 5-, 20-, 50-, and 100-in. levels with arrows depicting normal wind direction. The second, "Southeast Asia average precipitation and prevailing surface winds December January February," presents the same type information as the first map in the same manner of depiction. The third, "Coastal Southeast Asia monthly precipitation," shows the monthly rainfall for the Thailand cities Phuket, Songkhla, Chumphon, Frachuap, Khiri Khan, Bangkok, and Sattahib. The fourth, "Coastal Southeast Asia generalized vegetation," shows the areal extent of tropical rain forest; grassland, forest, or brush; subtropical mountain forest; tropical dry deciduous forest; wetland rice or some dry cultivation; rubber plantations or dry cultivations;

mangroves; and swamp. The fifth, "Coastal Southeast Asia generalized soil map," shows the areal extent of mountain or hill soils, residuals composed of brown and yellow forest soils and latosols, and alluviums composed of coastal riverine and delta plains, some with sandy or swampy sea margins.

All maps have 5-deg tick coordinates.

159-02-02-XG Woodthorpe, R. G., "The country of the Shans." The Geographical Journal, vol 7, No. 6, London, England (June 1896), pp 577-602, map opposite p 688, illus.

#### Maps

160-03-01-XO American Geographical Society, "The world." 1:5,000,000, U. S. Army Map Service, CE, Washington, D. C., March 1962.  
AMS/Series  
1106

The 13 colored sheets in this series cover the land masses of the world. The nine eastern hemisphere sheets are on a Miller Oblated Stereographic projection and sheets seven, eight, and nine cover the MERS study area. They show international or intercolonial demarcated, undemarcated, and disputed boundaries; major and minor civil subdivision, trust territory, administrative, and oblast boundaries; armistic lines; railways; airports; principal and secondary all-weather roads; dry-weather roads; tracks or trails; Great Wall of China; oil pipelines; perennial and intermittent rivers and lakes; areas subject to flooding; irrigation and navigation canals; glaciers; wells; salt pans marshes; sand and sand dunes; state, major civil subdivision, and oblast capitals; towns of six population classes; other towns and villages; spot elevations; and contours at 200, 500, and 1000 meters, and each 1000 meter thereafter to 8000 meters. The sheets are colored to show the elevation classes. A glossary is included and the sheets have 2-deg even coordinates. These maps are listed in the Army Map Service stock catalog as series 1106.

161-03-02-XO Bagge, A. H., "Map of Tenasserim and the adjacent provinces of the Kingdom of Siam." 1:506,880, 1867.  
AMS/ML  
5L-2-28.00-582-506/2  
3U-2-28.00-582-506/2

This map, composed of two colored sheets, was compiled by a member of the Royal Engineers, Her Britannic Majesty's Commissioner for the Siam and Tenasserim Boundary Settlement. The mapped area includes a narrow band along the proposed border from 10°N to 18°N, and shows drainage, roads, populated areas, topography by hachures, and the British and Siamese possessions in color. The map has 1-deg coordinates.

162-03-02-XO Bagge, A. H., "Map of Tenasserim and the adjacent provinces of the Kingdom of Siam." 1:506,880, 1868.  
AMS/ML  
5L-2-28.00-582-506  
3U-2-28.00-582-506

This map, composed of three colored sheets, was compiled by a member of the Royal Engineers, Her Britannic Majesty's Commissioner for the Siam and Tenasserim Boundary Settlement. The mapped area includes a narrow band along the proposed border from 10°N to 18°N and shows the proposed and accepted boundary, drainage, roads, populated areas, topography by hachures, and the British and Siamese possessions. The map has 1-deg coordinates.

163-03-01-XO Bartholomew, J., editor, "The Times Atlas of the World," various scales, The Times Publishing Company, Limited, London, England, 1958.

These five volumes contain approximately 400 plate maps and descriptions and is one of the best present day atlases. Volume 1 contains brief notes and very small-scale maps of the world and larger-scale maps of Australasia and East Asia which includes the MERS study area. The atlas has a very brief thumbnail sketch of each country considering the physiography, population,

## Surface Geometry, Maps

religion, etc. A map at a scale of 1:4,000,000 shows arterial routes, other roads, tracks, main civil airports, international boundaries, oil pipelines, mangrove swamps, and spot elevations. The maps are in color to show elevation differential with divisions at 100, 200, 500, 1000, 2000, 3000, 4000, and 5000 meters. The maps have 2-deg (even) coordinates and an index gives numerous geographical names.

164-03-02-XC      Barton, Thomas F., editor, "Southeast Asia and Australia." 1:10,750,000, A. J. Nyström and Company, Chicago, Ill., 1959.

This colored map shows five population classes of cities, steamship routes, deserts, canals, swamps, drainage, political boundaries, and topography by shading. Inset maps at an approximate scale of 1:36,720,800 show annual rainfall, population distribution, and land utilization. All have 10-deg coordinates.

165-03-01-XG      Black, John Stewart, "Khao Phra Vihar." 1:50,000, Prachander Press, Bangkok, Thailand, 1956.

AMS/ML  
5L-32-30100  
39781-50

SEE: Black, John Stewart, The Lofty Sanctuary of Kao Phra Vihar, Prachander Press, Bangkok, Thailand, 1956, 31 pp, illus, map, in the General Section.

166-03-01-XS      Brown, Glen F., and Jalichandra, Nitipat, "Geologic sketch map of the Mae Lama tungsten lode and adjacent leases, Mae Sariang District, Changwat Mae Hong Son." 1:4,000, plate no. 9, U. S. Geological Survey, Washington, D. C., 1951.

167-03-01-XS      Brown, Glen F., and Jalichandra, Nitipat, "Geologic sketch map of the Mae Sariang tungsten district, Changwat Mae Hong Son." 1:20,000, plate no. 8, U. S. Geological Survey, Washington, D. C., 1951.

AMS/ML  
5L-2-14.00  
90200-20

168-03-01-XS      Brown, Glen F.; Pitakspraiwan, Kasetr; and Phithum, Sangop Kao, "Reconnaissance geologic map of the Nong Phai lead-zinc area, Changwat Kanchanaburi." 1:7,500, plate no. 6, U. S. Geological Survey, Washington, D. C., 1951

AMS/ML  
5L-2-14.00  
90200-7

169-03-01-X0      Canadian Aero Service, Limited, "Mekong Pa Mong Project, Lower Mekong Basin, topographic maps of reservoir basin," 1:20,000, Ottawa, Ontario, Canada, 1960.

AMS/ML  
5L-23-30.00-3622-20

This series, composed of 22 sheets and an index, was produced under the Colombo Plan for the Committee for the Coordination of Investigations of the Lower Mekong Basin from air photographs taken and ground control established as a Canadian Colombo Plan Project in 1959-60. The maps cover a small area on either side of the Mekong River from the vicinity of Pak Lay, Laos, to Vientiane, Laos, and show routes, roads, trails, railways, rivers and streams, swamps, cultivation, political boundaries, bench marks, and spot elevations. The maps are contoured with an interval of 5 meters from the river level, which is approximately 190 meters, to an elevation of 250 meters with datum being taken at mean sea level. The steeply sloping areas have some contours missing, but there is no set contour interval change, and due to the 250-meter upper limit, there are some strips along the river where the mapped area is quite narrow. The maps have no coordinates, but are numbered so that the location on the 1:250,000-scale topographic maps of the area can be readily determined.

L70-03-01-XV Canadian Aero Service, Limited, "Pa Mong Dam site (upper)." 1:2,000,  
AMS/ML Ottawa, Ontario, Canada, 1961.  
5L-23-30.00-3622-2

These 15 topographic maps are preliminary work sheets and cover an area along either side of the Mekong River at the Pa Mong Dam site (vicinity of 102°21'E). The maps show main routes, improved roads, secondary roads, tracks or trails, railways, perennial rivers, nonperennial rivers, falls, rapids, swamps, marshes, wooded areas, rice fields, international and provincial boundaries, and spot elevations. The maps are contoured with 1- and 2-meter intervals and have a military grid rather than coordinates.

L71-03-01-X0 China General Staff, Land Survey Department, "Yunnan Burma Siam and Annam Border Maps." 1:253,440, 1942-1943.  
AMS/ML  
3U-3-30.00-27074-253

Eighty-five monochrome and colored maps cover most of Burma, including 23 sheets which cover the Thailand border from its southern extremity with Burma to just east of 102°E. The mapped portions are bilingual (Chinese and English), and the legend is in English. The two sheets examined show single and double tracks for narrow and standard gauge railways, tramways, cart tracks and footpaths, drainage, wells, oil wells, deserted villages, mines, springs, graves, temples, monasteries, forts, international boundaries province and district boundaries, spot elevations, postal and telegraph offices, and 100-meter contours (approximate). The maps cover 1-deg square and have 15-minute stub coordinates.

L72-03-01-XV "Commission de Delimitation ou Entre l'Indochine et le Siam and Commission de Delimitation de la Frontiere Entre l'Indochine et le Siam," 1:200,000,  
AMS/ML 1904 and 1907-08.  
5L-23-28.00-507-200  
2L-23-30.00-507-200

This is actually three series of maps either in color or photocopies. The first, composed of five photocopy sheets, shows the present Thailand-Laos border from just northwest of Loei, Thailand, to its junction with the Mekong River at approximately 20°10'N. The second is composed of six colored sheets and shows the old Thailand-Cambodia border from Khlong Welu, Cambodia, which is on the coast, northward and eastward to Pak Moun, Laos, which is just north of the Se Done River mouth. Each of the above series (dated 1904) shows communication routes, study limits, drainage, rice fields, forest, and spot elevations. Two forest units are indistinguishable on the photocopies. The mapped areas are contoured with a 50-meter interval. The third series, composed of five colored maps dated 1907-08, shows a narrow strip along the present Thailand-Cambodia border from its southern extremity to approximately 104°10'E. These maps show towns, vegetation, roads, drainage, spot elevations, and 50-meter contours, but a legend is not included. All sheets are irregular in size and have French coordinates (based on Paris prime meridian). An ozalid index of coverage is available.

L73-03-02-X0 Edward Stanford, Limited. "Burma and adjacent countries." 1:1,520,640,  
AMS/ML 1948.  
3U-2-28.00-39554-1.520

This colored map covers the approximate geographic area of 15°30'N to 25°10'N and 91°25'E to 98°40'E, which at the time the map was compiled included portions of Bengal, Assam, Upper Burma, Lower Burma, China, and Siam. Although a legend is not presented, four types of communication routes, drainage, political boundaries, and topography by hachures are shown. One-deg coordinates with tick marks at each five minutes are shown.

L74-03-02-X0 Egypt Middle East Land Forces, "Burma and Thailand." 1:2,000,000, 1944.  
AMS/ML  
5L-1-30.50-66402-2.000  
Category 3U

This colored map covers the approximate geographic area of 92°E to 102°E and 11°N to 16°N. It shows four important classes of towns, villages, interterritorial boundaries, railways, main roads, other roads, tracks, spot elevations, drainage, and some topography by hachures. The map has 1-deg coordinates.

## Surface Geometry, Maps

L75-03-02-X0                      Federated Malay States Survey, "Thailand." 1:1,250,000, map No. 491,  
1940.  
AMS/ML  
5L-1-26.00-35702-1.250

These two colored maps cover the area  $97^{\circ}$  to  $105^{\circ}$  and  $5^{\circ}$  to  $20^{\circ}30'$  and are on a conical projection, with two standard parallels at  $8^{\circ}$  and  $18^{\circ}$  N latitude. They have 1-deg coordinates, hachured topography with spot elevations, two classes of roads; tracks; railways; roads and railways under construction; and international, interstate, and provincial boundaries. The publisher mentions that some of the second class roads shown are not suitable for transportation. The accuracy of this map is questionable.

L76-03-02-X0                      Federated Malay States Survey, "Thailand." 1:1,550,000, 1939.  
AMS/ML  
5L-1-26.00-35702-1.550

This is primarily a transportation map of Thailand which shows main roads, other roads, tracks, roads under construction, railways, railways under construction, and international, interstate, and provincial boundaries. It also shows towns, drainage, spot elevations, and topography by hachures. Aerodromes and landing grounds have been added to the map. The map has 1-deg coordinates.

L77-03-02-X0                      France, Institut Geographique National, "Carte Routiere de l'Indochine."  
1:400,000, 1945-1950.  
AMS/ML  
2L-3-26.00-47027-400  
Category 30

These 24 bilingual colored maps cover Indochina and lap into Thailand by approximately 1-deg. The sheet examined showed colonial, locale, and provincial routes of five types; railways in use and under construction; tramways; ferries and bridges; wide and narrow canals; rice fields and marshes; airfields; state, regional, and provincial boundaries; towns and villages; ruins; mountains; postal and customs offices; foresters' lodges; military posts; native guard posts; and aid posts. The map also shows drainage and 100-meter contours, but the Thailand portion is not contoured. The map has 1-deg coordinates based on the Paris prime meridian and is approximately 2-deg square.

L78-03-01-X0                      France, Institut Geographique National, "Carte Routiere de l'Indochine."  
1:400,000, 1950-1952.  
AMS/ML  
2L-3-26.00-47027-400/2  
Category 15 and 30

These 24 colored French maps are labeled in French with a French-English legend and cover Indochina and approximately 1-deg of Thailand. The sheet examined showed Federal, local, provincial, and communal routes which are metalled, unmetalled, and under construction; route numbers; paths and tracks; railways in use and under construction; tramways; ferries and bridges; wide and narrow canals; geodesic or astronomic points; marshes; all-season airfields; state, regional, and province boundaries; towns and villages; mountains; important ruins and monuments; drainage; and contours at the 200-, 500-, 1000-, 1500-, 2000-, and 2500-meter levels. The Indochina portion is colored to show these classes, but the Thailand portion has only dashed contours. Areas are also colored which have uncertain leveling, and this composed a large area on the sheet examined. The maps have 1-deg coordinates based on the Paris prime meridian and are approximately 2-deg square.

L79-03-01-XV                      Great Britain Directorate of Military Survey, "Siam Kra Isthmus,"  
1:63,360, 1945-1960.  
AMS/ML  
5L-23-30.00-40000-63

These maps, which are in color, cover the entirety of Thailand from  $7^{\circ}$  N to  $9^{\circ}$  N and the area from  $90^{\circ}$  N to  $100^{\circ}$  N and  $99^{\circ}$  E to  $99^{\circ}30'$  E. One sheet of the series was examined and it shows railways, main roads, motorable roads, minor roads, trails which are all weather and fair weather, rivers, streams, approximate water courses, detailed cultural features, confirmed jungle, mangrove swamps, plantations, scattered trees, bamboo, palms, grass, scrub, mud, swamp, confirmed cultivation, and



unconfirmed cultivation. Spot elevations are included, and the maps are contoured at 40-meter intervals. The maps cover approximately 15-minute squares with tick coordinates at 5-minute intervals. A glossary is included. An ozalid index of coverage is available.

L80-03-01-X0 Great Britain, General Staff, Geological Survey, "Thailand." Map No. 4721,  
1:2,000,000, 1951.  
AMS/ML  
5L-1-26.00-40000-2.000

This map, which is in color, shows detailed cultural features, transportation routes, and drainage. The map is contoured at the 200-, 500-, 1000-, and 2000-meter levels, and it has 2-deg (even) coordinates. A glossary is included.

L81-03-02-XV Great Britain Interservice Topographic Department, "Indo-China and Siam."  
1:1,000,000, Great Britain War Office, London, England, 1945.  
CIA/ML  
H500-22  
24410

L82-03-01-XV Great Britain War Office and Air Ministry, Department of Survey, "Malaya and Southern Thailand," 1:63,360, GSGS 4690, 1910-1960.  
AMS/ML  
5L-3-30.00-35702-63

This series of maps, composed of 104 colored sheets, was compiled from aerial photographs and field notes, is on a Cassini Soldner Projection, and covers approximately 50 percent of the Malaya Peninsula from its southern extremity up to 7°N. The maps have been reprinted by Army Map Service at dates varying from 1923 to 1963. Maps show the following data: single and double track railways; light railways; all-weather bound and loose surface roads; dry-weather loose surface roads; jeep tracks; footpaths or jungle trails; types of bridges; international, state, and district boundaries; detailed cultural features; jungle; tree cultivation (rubber, oil palm, coconut, and orchard); padi; pineapple; resam; lalang; mangrove, nipah palm, tidal and freshwater swamps; limits of cultivation and forest reserves; drainage; and spot elevations and contours at 50-ft intervals. These data may vary on the individual maps. The maps cover 15 minutes square, have corner coordinates with tick marks at each 5 minutes, and have the Malay grid. A glossary is included on each sheet.

L83-03-02-X0 Hin Khana Rhang Press, "Thailand rivers, islands, bays, plains, and roads," 1:2,500,000, Bangkok, Thailand, 1947.  
CIA/ML  
H503-22,72085

A photocopy of the colored map was reviewed. The map is printed in Thai but the legend has been translated and shows national and provincial boundaries, plains, low mountains, and high mountains. The map also shows drainage and provincial capitals. There are no coordinates.

L84-03-01-X0 India Directorate of Military Survey, "India and Burma." 1:63,360,  
1943-1947.  
AMS/ML  
U-23-30.00-83000-63

This colored map series cover portions of India, most of Burma, and a small portion of Thailand. Thirty-seven sheets cover approximately 75 percent of the Thailand border, usually including about 30-minutes of longitude, south of 17°N. They show international and province or state demarcated and undemarcated boundaries; district, subdivision, and forest boundaries; all-weather and fair-weather motorable and minor roads; tracks and footpaths; single- and double-meter gauge railways; tramways; telegraph lines; post and telegraph offices; rivers and streams; tidal rivers; sand; submerged rocks; wells; springs; tanks; oil wells; huts, villages; religious buildings; rest houses; police stations; Buddhist Kaungs; embankments; swamps; reeds; cultivation; jungle; bench marks; spot elevations; and 50-ft or 25-meter contours. The sheets usually cover 15-minutes square, have corner coordinates with 5-minute tick marks, and have the Malay grid. An ozalid index of coverage is available.

## Surface Geometry, Maps

L85-03-01-XV India Directorate of Military Survey, "Malaya." 1:253,440, various dates.

AMS/Series

L501

AMS/ML

5L-3-3000-83000-253

The 21 colored sheets in this series were originally compiled as a Great Britain's General Staff, Geographical Survey series 4218 and were reprinted by Army Map Service. They are on a polyconic projection, and cover the Malay Peninsula from 7°N southward. Five sheets, dated 1956-1957, cover the Thai-Malay border and show meter-guage and light railways; telephone, telegraph, and powerlines; first-class metalled and second-class metalled or gravel roads; cart or jeep track and footpath; international, state or province, and district boundaries; reserved forest; canals; numerous cultural features; mangrove swamps, lopak, and freshwater swamps; spot elevations; and contours with a 250-ft interval. The sheets cover 1-deg square and have tick marks at each 15-minutes. The Malay grid is superimposed. A glossary is included.

L86-03-01-X0 India Directorate of Military Survey, "Maps of Thailand." 1:63,360, 1945-

1946.

AMS/ML

5L-23-30.00-83000-63/2

This series of maps (57 colored sheets) covers the approximate area of 12°N to 14°40'N and the Burma border to 101°E. The one sheet which was examined showed 25-meter contour interval (with spot elevations), detailed communication routes, political boundaries, cultural features, drainage, and vegetation. Each sheet covers 10 minutes of longitude and 20 minutes of latitude, with tick coordinates at each 5-minute interval. An ozalid index of coverage is available.

L87-03-02-XV India Directorate of Military Survey, "Maps of Thailand." 1:253,440,

1934-46.

AMS/ML

5L-3-30.00-83000-253

This map series (54 colored sheets) covers all of Thailand except for 10°N to 12°N and along the Burma border. This sheet of the series which was examined showed detailed cultural features, vegetation, political boundaries, lines of communication, and spot elevations. The area is contoured, but the interval is not identified. An attached note says that there is no evidence to suggest that the map is not reasonably accurate for its time. The sheets cover 1-deg square with tick coordinates at each 15 minutes. An ozalid index of coverage is available.

L88-03-01-X0 India Directorate of Military Survey, "Thailand." 1:253,440, 1953-1959.

AMS/Series

L508

The nine colored sheets in this series cover Thailand from 7°N to 10°N and a small portion of the western coast of the peninsula just south of 7°N. They are a continuation of the Survey's series entitled "Malaya" and have the same characteristics with form lines being at approximately 250-ft intervals.

L89-03-01-XV India, Survey of India Department, "Burma-Thailand." 1:126,720, 1941-42.

AMS/ML

5-23-30.00-82002-126

3U-23-30.00-82002-126

This series of maps (composed of 25 colored sheets) covers the Burma-Thailand border and shows metalled and unmetalled roads of four classes; cart tracks, camel tracks, mule paths, and footpaths; bridges, causeways, and fords; streams and canals; shelving, steep (10-20 ft), and very steep (over 20 ft) riverbanks; riverbeds (dry, with stream, and with islands and rocks); tidal river, shoals, and submerged rocks; wells, springs, and tanks; karez, swamp, and reeds; embankments, cuttings, and tunnels; broken and camping grounds; normal and narrow single and double railways; light railways; or tramway; telegraph lines; reserved, protected, and state forests; grass, cane, bamboo, plantain, palms, conifers, other trees, and scrub; many cultural features; political boundaries; spot elevations; and 100-ft contours. The sheets cover 30 minutes of latitude and

longitude and have corner coordinates, tick marks at each 5 minutes, and military grid. A glossary is included.

L90-03-02-X0 Indochine, Service Cartographique des Forces Armees en Extreme Orient,  
"Indochina." 1:500,000, 1899-1903.  
AMS/ML  
2L-3-15.00-35003-500

This series of 20 colored maps is printed in French and covers part of Thailand and Indochina from approximately 100°E eastward. The sheet examined had no legend but appears to show political boundaries, populated places, lines of communication, drainage, and topography by shading. The sheets cover approximately 4 deg of longitude and approximately 2-1/4 deg of latitude. The maps have 1-deg coordinates based on the Paris prime meridian.

L91-03-01-X0 Indochine, Service Geographique, "Cambodia-Laos-Vietnam physical and road  
map." 1:2,000,000, Dalat, South Vietnam, 1938. (Reedited by publisher  
AMS/Series in 1954 and printed by AMS as 3d edition in December 1961.)  
5202  
AMS/ML  
2L-1-15.00-35001-2.000/2

This colored map is printed in French, on a Boone projection, covers the geographic area of approximately 100°E to 111°E and 8°30'N to 23°30'N, and has a bilingual legend. It shows national and provincial capitols, important centers, places of average importance, and other places; stone-paved and unpaved roads; principal trails or paths; bridges and ferries; railroads; calcareous massifs; distances of river ports from the sea; international, major administrative, and primary administrative boundaries; drainage; and spot elevations. The map is contoured with divisions of 200, 500, 1000, 1500, 2000, 2500, and 3000 meters and the Indochina portion is colored to emphasize these. The map has 5-deg coordinates based on the Paris prime meridian and tick coordinates based on the Greenwich prime meridian at 105° and 110°E and 10°, 15°, 17°, and 20°N.

L92-03-01-X0 Indochine, Service Geographique, "Carte de l'Indochine." 1:1,000,000,  
1928-1941.  
AMS/ML  
2L-3-15.00-35001-1.000

This series of 18 colored maps, printed in French, covers the geographic area of 8°N to 25°N and 97°E to 112°E. The sheets examined showed metalled and unmetalled roads, trails, paths, five types of populated places, political boundaries, telegraph installations, spot elevations, and contours and colors for the 100-, 200-, 500-, 1000-, 1500-, 2000-, 2500-, and 3000-meter levels. They cover approximately 5 deg of longitude and 3 deg of latitude and have 1-deg coordinates based on the Paris prime meridian.

L93-03-02-X0 Indochine, Service Geographique, "Carte Routier de l'Indochine."  
1:400,000, 1937-1944.  
AMS/ML  
2L-3-26.00-35001-400  
Category 30

These 22 maps, in French, cover part of Thailand and the Indochina Peninsula from approximately 101°30'E eastward with the exception of a missing sheet in west North Laos. The sheet examined shows routes, paths, and tracks; railways in use and under construction; ferries and bridges; spot elevations; airfields; telegraph offices; towns and villages; province boundaries; drainage; and topography by shading. The maps have 1-deg coordinates based on the Paris prime meridian and are approximately 2-deg square.

L94-03-01-X8 Ivanova, M. A., editor, "Indochina." 1:4,000,000, U. S. S. R. State  
Geographical Literature Press, Moscow, Russia, 1959.  
AMS/ML  
L-2-15.00-57008-4.000  
3U-2-15.00-57008-4.000

This colored map is printed in Russian and covers the MERS study area. The map shows six

population classes of towns, four classes of political boundaries, five types of communication routes, spot elevations, drainage, and five elevation classes. Two small-scale-inset-maps (1:8,000,000) show economic products and generalized soils.

L95-03-01-XV Japanese Army, I-1160 Unit, "Aerial photo survey maps." 1:50,000, 1944.

AMS/ML

5L-23-30.00-31185-50

These 12 monochrome sheets are printed in Japanese, and they cover the road and vicinity from Udon Thani to Thakhek in northeast Thailand. The one sheet examined showed cultural features, communication routes, vegetation, and 20-meter contours. An attached note says that the reliability of the maps is poor because positions and elevations were taken from small-scale maps and photographs. The sheets cover 10 minutes of latitude and 15 minutes of longitude, and have corner coordinates. An ozalid index of coverage is available.

L96-03-01-XV Japanese Army, I-1160 Unit, "Aerial photo survey sketch maps of Thailand." 1:100,000, 1945.

AMS/ML

5L-23-30.00-31185-100/2

Twenty-one monochrome and photocopy sheets, printed in Japanese, cover scattered portions of Burma (four sheets) and Thailand south of 11°N. The one sheet examined shows political boundaries, cultural features, drainage, vegetation, and spot elevations. The maps are contoured with a 40-meter interval, and appear to be fairly detailed. The sheets are of various sizes and have corner coordinates. An ozalid index of coverage is available.

L97-03-01-XV Japanese Army, I-1160 Unit, "Aerial photo survey sketch Thailand French Indo-China Nagorn Bhanom vicinity." 1:25,000, 1944.

AMS/ML

5L-23-30.00-31185-25

This survey is in three monochrome sheets, in Japanese, and covers a narrow portion along the Mekong River in the vicinity of Nakhon Phanom. These sheets show villages, six types of roads, bridges, fields, and three types of vegetation. The sheets have corner coordinates and are contoured with a 10-meter interval. An attached note states that the map was compiled from 1:40,000 aerial photography, dated 1944, and that the positions and elevations, which are based on a small-scale map, are unreliable. Cliffs and sandbars also seem to be shown. An ozalid index of coverage is available.

L98-03-01-XO Japanese Army, I-1160 Unit, "Emergency reproduction Thai Army Map Bureau."

1:100,000, 1912-1927.

AMS/ML

5L-23-30.00-31185-100

This map series, printed in Japanese, is composed of 15 monochrome sheets which cover the old Thailand-Burma railroad and vicinity from Ben Pong, Thailand, Three Pagodas Pass. These sheets show political boundaries, communication routes, drainage, cultural features, and spot elevations, and are contoured with what appears to be a 50-meter interval. The maps are of a poor quality, cover 20 minutes square, and have tick coordinates at each minute. An ozalid index of coverage is available.

L99-03-01-XV Japanese Army, OKA 1601 Unit, "Thailand Kra Isthmus vicinity." 1:25,000, 1943.

AMS/ML

5L-23-30.00-31179-25

These nine monochrome sheets are printed in Japanese and cover a narrow strip along the road westward from Chumphon, Thailand, to near the Burma border and then southward along the road to approximately 10°10'N. The maps show four types of roads, railroads, cultivated areas, bridges, spot elevations, four types of vegetation, cliffs, international boundaries, and 10-meter contours. An ozalid index of coverage is available.

L100-03-01-XV Japanese Army General Staff, "Thai-Burma international boundary map."  
1:100,000, 1941-1942.  
AMS/ML  
5L-23-30.00-31089-100  
5L-23-28.00-31089-100

These 26 monochrome and photocopy sheets are printed in Japanese and cover sections of four highways crossing the border between Thailand and Burma and Malaya. The first section covered is along the main highway from  $98^{\circ}30'E$ ,  $21^{\circ}17'N$  (Burma) to Lampang, Thailand, and then a short stretch north of Lampang; the second is along the road from just south of Hsuppswng, Burma, ( $98^{\circ}39'E$ ,  $20^{\circ}24'N$ ) southward to midway between Chiang Mai and Lamphun, Thailand; and the third and fourth sections are north-south strips crossing the Malaya border. These strips cover the highways from Songkhla, Thailand, to Alor Star, Malaya, and from Yala, Thailand, to Baling, Malaya. The maps show detailed cultural features, vegetation, communication routes, and drainage. Spot elevations are given and the areas are contoured with a 40-meter interval. The maps are usually 20 minutes square and have corner coordinates. An ozalid index of coverage is available.

L101-03-01-XV Japanese Army, General Staff, "Thailand and Burma." 1:50,000, 1941.  
AMS/ML  
3U-23-30.00-31089-50

These 29 photocopy sheets cover areas near Rangoon, Moulmein-Melassao, and Mergui-Tenasserim, Burma, with two sheets of the second group covering a small portion of Thailand. The sheets are printed in Japanese and the mapping is restricted to transportation routes within the area. The maps show three types of communication routes, drainage, several vegetative types, towns, and contours at a 20-ft interval. The sheets cover 10 minutes of latitude and longitude and have corner coordinates. An ozalid index of coverage is available.

L102-03-01-XV Japanese Army, General Staff, "Thailand military maps." 1:50,000, 1941-1942.  
AMS/ML  
5L-23-30.00-31089-50

The 94 sheets in this series are printed in Japanese and cover an area along the railroad from  $99^{\circ}E$  to  $103^{\circ}09'E$  and along the east coast to  $6^{\circ}10'N$ . The maps show towns, drainage, vegetation, spot elevations, and 20-meter contours. The sheets cover 10 minutes of latitude and longitude and have corner coordinates. An ozalid index of coverage is available.

L103-03-02-XV Japan Imperial Land Survey, "Map of Thailand." 1:76,900, 1941.  
AMS/ML  
5L-32-30.50-31012-36

These three monochrome and photocopy sheets are printed in Japanese and cover the approximate geographic area of  $16^{\circ}41'N$  to  $16^{\circ}58'N$  and  $98^{\circ}40'E$  to  $99^{\circ}02'E$ . The one sheet examined shows towns, drainage, roads, some vegetation, and closely spaced but unlabeled contours. The sheets are irregular in size and have no original coordinates but the corners have been labeled. An ozalid index of coverage is available.

L104-03-01-X0 Khansachang Company, Limited, Printing Shop, "Thailand." 1:2,500,000.  
AMS/ML  
5L-1-15.00-35113-2,100  
Bangkok, Thailand, 1948.

This colored map printed in Thai shows drainage, railroads, two classes of roads, and six classes of cities according to population. It is colored to show elevation differential and has divisions of 0-200, 200-1000, and 1000-2000 meters, and greater than 2000 meters. The map has 2-deg (odd) coordinates.

L105-03-01-X0                      Khanachang Company, Limited, Printing Shop, "Thailand." Bangkok, Thailand, 1:2,500,000, 1949.  
 AMS/ML  
 5L-1-15.00-36313-2.500/2

This colored map is printed in Thai but the title and legend have been translated into English. The map covers Thailand, Laos, Cambodia, most of Vietnam, and parts of Burma and Malaya. It shows country and changwat boundaries, state railways (open and proposed), motor roads (open and under construction), through waterways, air line routes, drainage, and five population classes of cities. The map is colored to show elevation differential and has divisions of 0-500, 500-1500, and 1500-2500 meters, and greater than 2500 meters. The map has 2-deg (even) coordinates.

L106-03-02-X0                      Khanachang Company, Limited, Printing Shop, "Thailand showing topography and population statistics." Bangkok, Thailand, 1:2,500,000, 1949.  
 AMS/ML  
 5L-1-28.00-36313-2.500

This colored map is printed in Thai but the title and legend are translated in English. The map includes Thailand, most of Indochina, and parts of Burma and Malaya. The Thailand portion is colored to denote the provinces and shows international and changwat boundaries, railways, drainage, six classes of cities according to population, spot elevations, unlabeled contours, and hachures to supplement topography representation. The remainder of the map contains towns, drainage, and unlabeled contours. The map has 2-deg (odd) coordinates.

L107-03-01-X0                      Kokusai Mapping Company, "Aerial survey map of Chaiya Phum, Thailand."  
 AMS/ML                              1:20,000, February 1960.  
 5L-1-30.00-31937-20

These two photocopy sheets show the topography within a 2 mile strip along either side of the Mae Nam Chi from approximately 15°46'N, and 101°49'E to 16°02'N and 101°40'E. This strip is widened to approximately 4 miles in the vicinity of 16°N where the river cuts through a group of hills. The mapped area shows settlements, roads, drainage, spot elevations, and contours with a 10-meter interval. The map has no coordinates, but the military grid is shown.

L108-03-01-X0                      Kokusai Kogyo Company, Limited, "Lam Don Noi dam site." 1:10,000, sheet  
 AMS/ML                              No. 11-3, T (Thailand), Japanese Government Reconnaissance Team on the  
 1-23-22.20-31948-V              Mekong Tributaries, June 1960.

This blue-line topographic map covers a narrow strip along either side of the river from 15°12'N to 15°13'N in the proximity of 105°26'30"E. It shows 1-meter roads, trails, drainage, crumbling earth, sand, rock, swamp, broad-leaved trees, coniferous trees, wasteland, and natural levees. Spot elevations are included and the area is contoured with a 5-meter interval. The sheet is larger than the mapped area and has no coordinates but is divided into an arbitrary number of north-south and east-west divisions.

L109-03-01-X0                      Kokusai Kogyo Company, Limited, "Lower Nam Pung dam site." 1:20,000,  
 AMS/ML                              sheet No. 10-2 (1), T (Thailand), Japanese Government Reconnaissance Team  
 1-23-22.20-31948-V              on the Mekong Tributaries, November 1960.

This blue-line topographic map covers a narrow strip along either side of the river from 104°05'54"E to 104°09'E in the vicinity of 16°55'48"N. It shows 1-meter roads, trails, drainage, crumbling earth, sand, rock, swamp, broad-leaved trees, coniferous trees, wasteland, and natural levees. Spot elevations are included and the area is contoured with 5- and 10-meter intervals. The sheet is larger than the mapped area and has corner coordinates with an arbitrary number of north-south and east-west divisions.

L110-03-01-X0                      Kokusai Kogyo Company, Limited, "Nam Pung bridge site." 1:5,000, sheet  
 AMS/ML                              No. 10-2, T4A (Thailand), Japanese Government Reconnaissance Team on the  
 1-23-22.20-31948-V              Mekong Tributaries, May 1962.

This blue-line topographic map covers the geographic area of  $104^{\circ}15'E$  to  $104^{\circ}16'E$  and  $17^{\circ}03'N$  to  $17^{\circ}05'N$ . It shows 1-meter roads, trails, drainage, crumbling earth, sand, rock, swamp, broad-leaved trees, coniferous trees, wasteland, and natural levees. Spot elevations are included and the area is contoured with a 1-meter interval. A military grid is given in lieu of coordinates.

L111-03-01-XO Kokusai Kogyo Company, Limited, "Nam Pung No. 1 Reservoir." 1:25,000,  
AMS/ML sheet No. 10-1, T (Thailand), Japanese Government Reconnaissance Team on  
L-23-22.20-31948-V the Mekong Tributaries, March 1962.

This blue-line topographic map covers the geographic area of  $103^{\circ}54'30"E$  to  $104^{\circ}E$  and  $16^{\circ}51'N$  to  $17^{\circ}N$ . It shows 1-meter roads, trails, drainage, crumbling earth, sand, rock, swamp, broad-leaved trees, coniferous trees, wasteland, and natural levees. Spot elevations are included and the area is contoured with a 5-meter interval. The sheet is larger than the mapped area and no coordinates are included but the area is divided into an arbitrary number of east-west and north-south divisions.

L112-03-01-XO Kokusai Kogyo Company, Limited, "Nong Han and Nam Gam." 1:25,000, sheet  
AMS/ML No. 10-2, T (1-5) (Thailand), Japanese Government Reconnaissance Team on the  
L-23-22.20-31948-V Mekong Tributaries, May-August 1962.

These six blue-line sheets cover an area adjoining Sakon Nakhon in Northeast Thailand. They show 1-meter roads, trails, drainage, crumbling earth, sand, rock, swamp, broad-leaved trees, coniferous trees, wasteland, and natural levees. Spot elevations are included and the area is contoured with a 2.5-meter interval. The sheets are larger than the mapped area and have no coordinates but are divided into an arbitrary number of east-west and north-south divisions.

L113-03-01-XO Kokusai Kogyo Company, Limited, "Upper Khemarat Dam site." 1:50,000,  
AMS/ML sheet No. 0-5, LT (Laos & Thailand), Japanese Government Reconnaissance  
L-23-22.20-31948-V Team on the Mekong Tributaries, February 1961.

This blue-line topographic map covers a narrow strip along either side of the Mekong River from  $15^{\circ}52'20"N$  to  $16^{\circ}00'54"N$  in the vicinity of  $105^{\circ}22'32"E$ . It shows 1-meter roads, trails, drainage, crumbling earth, sand, rock, swamp, broad-leaved trees, coniferous trees, wasteland, and natural levees. Spot elevations are included and the area is contoured with a 5-meter interval. The sheet is larger than the mapped area, has corner coordinates, and is divided into an arbitrary number of north-south and east-west divisions.

L114-03-01-XO Kokusai Kogyo Company, Limited, "Upper Nam Chee (Chaya Poun)." 1:20,000,  
AMS/ML sheet No. 11-2 (1-5) (Thailand), Japanese Government Reconnaissance Team  
L-23-22.20-31948-V on the Mekong Tributaries, May 1960.

These five blue-line topographic maps cover a narrow strip along the river from  $15^{\circ}47'43"N$  to  $16^{\circ}10'28"N$  in the vicinity of  $101^{\circ}41'E$ . They show 1-meter roads, trails, drainage, crumbling earth, sand, rock, swamp, broad-leaved trees, coniferous trees, wasteland, and natural levees. Spot elevations are included and the area is contoured with a 5-meter interval. The sheets are larger than the mapped area, have no coordinates, and are divided into an arbitrary number of north-south and east-west divisions.

L115-03-01-XO Kokusai Kogyo Company, Limited, "Upper Nam Chee (Chao Poun)." 1:50,000,  
AMS/ML sheet No. 11-1, T (Thailand), Japanese Government Reconnaissance Team on  
L-23-22.20-31948-V the Mekong Tributaries, May 1960.

This blue-line topographic map covers the same areas as the five 1:20,000 sheets. It shows 1-meter roads, trails, drainage, crumbling earth, sand, rock, swamp, broad-leaved trees, coniferous trees, wasteland, and natural levees. Spot elevations are included and the area is contoured at 10- and 20-meter intervals. The sheet is larger than the mapped area and it has corner coordinates with an arbitrary number of north-south and east-west divisions.

Surface Geometry, Maps

L116-03-01-XO Kokusai Kogyo Company, Limited, "Upper Nam Pung dam site." 1:20,000,  
AMS/ML sheet No. 10-3, T (Thailand), Japanese Government Reconnaissance Team  
L-23-22.20-31948-V on the Mekong Tributaries, October 1960.

This blue-line topographic map covers a very narrow band along that portion of the river contained in the geographic area of 103°54'20"E to 103°59'58"E and 16°53'26"N to 16°59'57"N. It shows 1-meter roads, trails, drainage, crumbling earth, sand, rock, swamp, broad-leaved trees, coniferous trees, wasteland, and natural levees. Spot elevations are included and the area is contoured at a 5-meter interval. The sheet is larger than the mapped area and has corner coordinates and an arbitrary number of north-south and east-west divisions.

L117-03-01-XO Kokusai Kogyo Company, Limited, "Upper Nam Pung Reservoir." 1:10,000,  
AMS/ML sheet No. 10-1 (1-2), T (Thailand), Japanese Government Reconnaissance  
L-23-22.20-31948-V Team on the Mekong Tributaries, October 1960.

These two blue-line topographic maps cover a narrow band along that portion of the river within the geographic area of 103°54'E to 104°E and 16°54'N to 16°59'N. It shows 1-meter roads, trails, drainage, crumbling earth, sand, rock, swamp, broad-leaved trees, coniferous trees, wasteland, and natural levees. Spot elevations are included and the area is contoured with a 5-meter interval. The sheets are larger than the mapped area and one has corner coordinates while both have an arbitrary number of north-south and east-west divisions.

L118-03-02-XO Lobeck, Armin Kohl, "Physiographic Diagram of Asia." 1:10,000,000, The  
Geographic Press, Columbia University, New York, N. Y., 1945.

This map portrays topography by hachures and shows major drainage.

L119-03-02-XO Lobeck, Armin Kohl, "Physiographic provinces of Asia." 1:20,000,000, The  
Geographic Press, Columbia University, New York, N. Y., 1945.

SEE: Lobeck, Armin Kohl, Physiographic Diagram of Asia. The Geographic  
Press, Columbia University, New York, N. Y., 1945, 8 pp, map.

Malaya

SEE: Federated Malay States.

L120-03-02-XVC Macmillan and Company, Ltd., "Macmillan's atlas for Southeast Asia."  
LC London, 1960, 32 pp.  
G-1019.P24

This atlas contains maps presenting the physical, political, natural vegetation, temperature, rainfall, and economic conditions, etc., for the world. These maps are on scales ranging from 1:2,500,000 to 1:119,700,000. Thailand is usually shown as a part of Asia and presented on a scale of 1:50,000,000 or 1:60,000,000.

L121-03-02-XO "Map of Thailand." 1:1,000,000, 1957.

AME/ML  
5L-1-24.50-100-1.000/2

This is a hand colored, blue-lined highway map of Thailand showing national highways open to traffic, under construction, and proposed. Towns, railroads, drainage, distances between junctions, and unlabeled contours are shown as general information. The map has no coordinates.

Best Available Copy



L122-03-02-X0 "Map of Thailand," 1:1,000,000, June 1958.

AMS/ML

5L-1-24.50-100-1.000/2

This is a highway map of Thailand showing provincial boundaries, national highways open to traffic, under construction, and proposed, and provincial highways opened to traffic. Towns, railroads, drainage, country boundary, and unlabeled contours are shown as general information. The map is a photocopy of a colored original; therefore, some of the highway units are indistinguishable.

L123-03-02-XS "Map of Thailand showing mineral resources." 1:2,800,000, no date.

AMS/ML

5L-1-9.00

100-2.800

L124-03-02-X0 McGill, John T., "Coastal landforms of the world." 1:25,000,000, American Geographical Society of New York, N. Y., Burlington, Vt., July 1958.

SEE: McGill, John T., "Map of coastal landforms of the world." The Geographical Review, vol 48, No. 3, Burlington, Vt. (July 1958), pp 402-405, separate map.

L125-03-01-X0 Nan-yang Map Society, "Newest Siam map." 1:2,000,000, no date (accession date 1951)

AMS/ML

5L-1-26.00-27375-2.000

This colored map is printed in both Thai and Chinese, and some of the larger towns have English names. The map shows cultural features, transportation routes, airports, drainage, and population statistics. The map is colored to show relief with units of 0-100, 100-500, 500-1000 meters, and greater than 1000 meters. A small-scale inset map shows Southeast Asia and associated islands, and a large-scale inset map shows the Bangkok, Thailand, area. The map has 1-deg tick coordinates.

L126-03-02-X0 National Geographic Society, Cartographic Section, "The Far East." 1:7,500,000, The National Geographic Magazine, vol 102, No. 3, Washington, D. C., September 1952.

This map is on a traverse mercator projection and covers all of the MERS study area. It shows principal railways completed and under construction, roads, canals, principal airfields, oil pipelines, oil fields, the Great Wall of China, ruins, passes, water holes, international boundaries and capitals, drainage, and spot elevations. The map is shaded to represent topography and some towns of lesser importance are included. The map has 5-deg coordinates with bars at each degree and a glossary is included.

L127-03-02-X0 National Geographic Society, Cartographic Section, "Southeast Asia." 1:8,000,000, The National Geographic Magazine, vol 86, No. 4, Washington, D. C., October 1944.

This colored map is on a traverse mercator projection and includes all of the MERS study area. It shows principal railroads completed, dismantled, and projected or under construction; important roads; airfields; oil pipelines; international boundaries and capitals; drainage; other towns; and spot elevations. The map is shaded to represent topography and has 5-deg coordinates with bars at each degree. A glossary is included.

Surface Geometry, Maps

L128-03-02-X0      National Geographic Society, Cartographic Section, "Southeast Asia."  
1:6,000,000, The National Geographic Magazine, vol 108, No. 3, Washington,  
D. C., September 1955.

This colored map is on an oblique mercator projection and covers the MERS study area from its southern extremity to approximately 25°N. It shows railways completed and under construction, highways completed and under construction, oil pipelines, oil fields, canals, airports, ruins, passes, drainage, international boundaries and capitals, other towns, and spot elevations. The map is shaded to represent topography and has 3-deg coordinates with bars at each degree. A glossary is included.

L129-03-01-X0      Nippon Tosei Map Co., "Distribution of Thai Natural Resources Investigated  
by Thai Room, (May 1942)." 1:2,000,000, 3d ed, printed 1937, published  
AMS/ML 1942.  
5L-1-9-31082-2.000

This map covers the area 96° to 109°30' and 4°30' to 23°13' (approximately) and has 2-deg even coordinates. It shows natural resources in Thailand, fragmentary drainage, place names, relief by colors, major highways, and political boundaries. On the map examined, only the place names and map title were translated into English; the detailed legend was entirely in Japanese.

L130-03-02-X0      Raisz, Erwin, "Landforms of Asia." No scale, 1960.

CIA/ML  
H000-22-127288

This very small-scale map shows basins, mountains, hills, islands, lakes, lowlands, peninsula, plains, plateaus, rivers, ranges, uplands, and valleys. Major towns are included and topography is indicated by hachures. The map has 10-deg coordinates.

L131-03-01-X0      Robinson, H. E. C., "Southeast Asia showing vertical relief and products."  
(1:12,300,000,) HEC Robinson, Pty., Ltd., Sydney, N.S.W., Australia,  
LC/ML no date.

This map covers the approximate geographic area of 45°S to 50°N and 80°E to 160°E and is colored to show elevation differences, with divisions at 600, 1200, 3000, 6000, 12,000, and 16,000 feet. Additional information includes major towns and drainage plus railroads.

An inset map on an approximate scale of 1:30,000,000 shows rice, wheat, wool, tea, cattle, cotton, and coal products. Rice is shown for Thailand. The maps have 10-deg coordinates.

L132-03-02-X0      Serizawa, Keigo, "Thailand." 1:2,000,000, 1943.

AMS/ML  
5L-1-26.00-31135-2.00

This is a captured Japanese colored map that covers the entirety of Thailand. The country is divided into 15 divisions, two of which are now a part of Cambodia. It shows political boundaries, communication routes (including sea and air), drainage, and cultural features. The map is fairly detailed and is shaded to represent topography. A 1:6,000 inset map shows the Bangkok, Thailand, area. The map has 2-deg (even) coordinates with bars each 29 minutes.

L133-03-02-X0      The Shell Company of Thailand, Limited, "Road Atlas of Thailand."  
1:1,000,000, George Philip and Sons, Limited, London, England, 1959, 56 pp.

This colored highway map is presented on 16 double sheets and shows province, district, and subdistrict capitals; state and province boundaries; railways; and state highways completed, under construction, and proposed. The atlas also contains plans of the cities of Bangkok, Chiang Mai, Lampang, Paknamho, Udon Thani, Korat, Ubol Ratchathani, Chon Buri, Songkhla, Phuket, Hat Yai, Rat Buri, Phet Buri, Thailand; list of road signs; table of routes and distances between towns; traffic signs; holy places; and addresses of diplomatic and consular corps in Bangkok. Drainage is shown in the maps and seven classes (unidentified) of elevation are shown in color.

L134-03-02-X0 The Shell Company of Thailand, Limited, Publicity Department, "Map of  
 AMS/ML Thailand." 1:1,000,000, George Philip & Son, Limited, London, England, no  
 5L-1-24.50-85040-1.000 date.

This colored bilingual map shows state and province boundaries; railways; state highways completed, under construction, and proposed; province, district, and subdistrict capitols; and drainage. The map is colored to show seven elevation classes which are undefined.

L135-03-02-X0 "Southeast Asia hypsometry." 1:3,000,000, 1955.

LC  
 G8000.R8

These four colored sheets are printed entirely in Russian and sheets NW and SW cover the MERS study area. Colored elevation differential with classes of 0-200, 200-500, 500-1000, and 1000-1500 meters is shown, and this sequence seems to be carried in the higher elevations. Towns, drainage, and some oil fields located in Burma are included as general information. The map has 2-deg coordinates.

L136-03-02-XS Sresthaputra, Vija, "Diagrammatic sketch of the physiographic provinces of  
 Thailand." 1:2,500,000, plate no. 4, U. S. Geological Survey, Washington,  
 D. C., 1951.

SEE: Brown, Glen F., Buravas, Saman, Charaljavanaphet, Jumchet, Jali-  
 chandra, Nitipat, Johnston, William D., Jr., Sresthaputra, Vija,  
 and Taylor, George C., Jr., Geologic Reconnaissance of the Mineral  
 Deposits of Thailand. U. S. Geological Survey Bulletin 984, Wash-  
 ington, D. C., 1951, 183 pp, illus, maps.

L137-03-01-XS Sresthaputra, Vija and Charaljavanaphet, Jumchet, "Geologic sketch map of  
 the Pilok tungsten mine, Pilok District." 1:2,000, plate no. 10, U. S.  
 Geological Survey, Washington, D. C., 1951.

L138-03-01-XS Taylor, George C., Jr., and Buravas, Saman, "Geologic map and section of  
 the Kai Thi Point manganese deposits, Ko Kram, Changwat Chon Buri,"  
 1:4,000, plate no. 7, U. S. Geological Survey, Washington, D. C., 1951.

L139-03-02-X0 "Thailand." 1:1,200,000, 1958.

CIA/ML  
 116509

This colored map covers Thailand and parts of Burma, Laos, Cambodia, Vietnam, and Malaya. The map shows rivers, highways, railways, towns, and relief by green shading. All place names, etc., are in the Thai.

L140-03-02-X0 Thailand Royal Department of Ways, "Map of Siam." 1:2,500,000, Bangkok,  
 Thailand, 1950.

AMS/ML  
 5L-1-24.50-36305-2.500/3

This is a colored map of Thailand showing national and provincial highways opened for public service, under construction, and proposed. Towns, drainage, and topography by hachures are included. The map has 1-deg coordinates.

Surface Geometry, Maps

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L141-03-02-XO      Thailand Royal Department of Ways, "Map of Siam showing the four main  
AMS/ML      highway systems." 1:2,500,000, Bangkok, Thailand, 1950.  
5L-1-24.50-36305-2.500/2

This map shows the Thailand highway system as follows: (a) asphalt highways, (b) macadam and laterite highways that need resurfacing, asphaltting, and permanent bridges, (c) highways under construction where clearing and earthwork are complete, and (d) proposed highways. Other data include drainage, railroads, and hachured topography. The map has 1-deg coordinates.

L142-03-01-XH      Thailand Royal Irrigation Department, "Hnai Nam Man irrigation control map  
showing canals on right and left bank, Kut Pong District, Loei Province."  
1:10,000, map No. 20692, Bangkok, Thailand, 1954.

L143-03-01-XH      Thailand Royal Irrigation Department, "The Kamphang Petch irrigation pro-  
ject showing proposed distribution system and tentative canal alignments."  
1:50,000, map No. 33395, Bangkok, Thailand, 1958.

L144-03-02-XH      Thailand Royal Irrigation Department, "Map of irrigation channels on right  
and left banks of Mae Lao, Mae Lac flood control." 1:100,000, map No.  
28569, Bangkok, Thailand, 1954.

L145-03-02-XH      Thailand Royal Irrigation Department, "Map of Mae Wang irrigation area,  
Lampang Province." 1:50,000, map No. 20814, Bangkok, Thailand, 1954.

L146-03-02-XH      Thailand Royal Irrigation Department, "Map of Me Fack irrigation project,  
Chiangmai Province." 1:100,000, map No. 16342, Bangkok, Thailand, 1949.

L147-03-02-XH      Thailand Royal Irrigation Department, "Map of Me Fack irrigation project,  
Chiang Mai Province." 1:100,000, Bangkok, Thailand, 1957.

L148-03-02-XH      Thailand Royal Irrigation Department, "Map of Me Fack irrigation project,  
Chiangmai Province." 1:100,000, map No. 16342, Bangkok, Thailand, 1958.

L149-03-02-XH      Thailand Royal Irrigation Department, "Map of Me Lao irrigation project,  
Chiang Rai Province." 1:100,000, map No. 28569, Bangkok, Thailand, 1958.

L150-03-02-XH      Thailand Royal Irrigation Department, "Map of Me Ping irrigation showing  
irrigation channels for Mae Faek, Mae Taeng, and Mae Ping Kao, Chiang Mai  
Provinces." 1:100,000, map No. 16342, Bangkok, Thailand, 1954.

L151-03-02-XH      Thailand Royal Irrigation Department, "Map of Me Wang irrigation project,  
Lampang Province." 1:50,000, map No. 20814, Bangkok, Thailand, 1949.

L152-03-02-XH      Thailand Royal Irrigation Department, "Map of Me Wang irrigation project,  
Lampang Province." 1:50,000, map No. 20814, Bangkok, Thailand, 1957.

L153-03-01-XH      Thailand Royal Irrigation Department, "Map of Pa Tak irrigation project,  
Chiang Mai Province." 1:10,000, map No. 28699, Bangkok, Thailand, 1959.

- L154-03-01-XH Thailand Royal Irrigation Department, "Map of Prasithi Cholakarn project showing people's irrigation scheme." 1:10,000, map No. 34720, Bangkok, Thailand, 1958.
- L155-03-01-XO Thailand Royal Irrigation Department, "Map of the Kingdom of Siam showing the catchment area" (in three sheets). 1:1,000,000, Bangkok, Thailand, AMS/ML 5L-1-7.67-36318-1.000/2 no date (accession date 1959).
- These hand colored sheets show the country divided into the northern, central and south-eastern, northeastern and peninsular regions which are subdivided into 20, 19, 3, and 20 drainage areas, respectively. The size of each drainage area is given in square kilometers. The map also shows rice or cultivated areas and is colored to show an increase in elevation at 200-, 500-, 1000-, and 2000-meter intervals. Province capitals and communication routes are included. Each sheet has 1-deg coordinates and 6-minute bars.
- L156-03-01-XH Thailand Royal Irrigation Department, "North-eastern drainage and flood control map Me Khong Valley Project, Nongkai Province." 1:50,000, map No. 20882, Bangkok, Thailand, 1958.
- L157-03-01-XH Thailand Royal Irrigation Department, "North-eastern drainage and flood control map Tung Sang Badal Project, Roi-Et Province." 1:50,000, map No. 20666, Bangkok, Thailand, 1958.
- L158-03-01-XH Thailand Royal Irrigation Department, "North-eastern irrigation map Bantoom Banteew project, Maha Sarakram Province." 1:20,000, map No. 26826, Bangkok, Thailand, 1949.
- L159-03-01-XH Thailand Royal Irrigation Department, "North-eastern irrigation map, Huey Luang Project, Udorn Province." 1:50,000, map No. 21311A, Bangkok, Thailand, 1949.
- L160-03-01-XH Thailand Royal Irrigation Department, "North-eastern irrigation map, Huey Nam Marn Project showing alignments of right bank and left bank main canals, Kood Pong District, Loie Province." 1:10,000, map No. 20692, Bangkok, Thailand, 1949.
- L161-03-01-XH Thailand Royal Irrigation Department, "North-eastern irrigation map, Huey Saneng project showing alignments of left bank and right bank canals, Surin Province." 1:20,000, map No. 20664, Bangkok, Thailand, 1949.
- L162-03-01-XH Thailand Royal Irrigation Department, "North-eastern irrigation map, Lam Ta Kong Project, Moon River, Asdang, Khongrah Sections, Nakorn Rajasima Province." 1:50,000, map No. 20676, Bangkok, Thailand, 1949.
- L163-03-01-XH Thailand Royal Irrigation Department, "North-eastern irrigation map, Me Khong Valley project, Nongkai Province." 1:50,000, map No. 20882, Bangkok, Thailand, 1950.

Surface Geometry, Maps

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- L164-03-01-XH Thailand Royal Irrigation Department, "North-eastern irrigation map, Tung Samrith Project, Pimai District, Nakorn Rajasima Province." 1:50,000, map No. 21180, Bangkok, Thailand, 1949.
- L165-03-01-XH Thailand Royal Irrigation Department, "North-eastern irrigation map, Tung Seng Badal Project, Roi-Et Province." 1:50,000, map No. 20666, Bangkok, Thailand, 1949.
- L166-03-01-XH Thailand Royal Irrigation Department, "North-eastern project showing the location of tanks and various irrigation projects." 1:500,000, map No. 3061QA, Bangkok, Thailand, 1954.
- L167-03-01-XH Thailand Royal Irrigation Department, "Reference map, irrigation control, Lam Takhong, Nakhon Ratchasima Province." 1:50,000, map No. 20676, Bangkok, Thailand, 1953.
- L168-03-01-XH Thailand Royal Irrigation Department, "Reference map Khong (Mekong) flood control, Nong Khai Province." 1:50,000, map No. 20882, Bangkok, Thailand, 1954.
- L169-03-01-XH Thailand Royal Irrigation Department, "Reference map Thung Sam Rit irrigation control, Phimai District, Nakhon Ratchasima Province." 1:50,000, map No. 21180, Bangkok, Thailand, 1954.
- L170-03-01-XH Thailand Royal Irrigation Department, "Reference map, Tung Saeng Badan Control, Roi-Et Province." 1:50,000. Bangkok, Thailand, 1954.
- L171-03-02-XH Thailand Royal Irrigation Department, "Reservoir construction in Northeast region and chart showing location of reservoirs." 1:500,000, Bangkok, Thailand, 1953.
- L172-03-01-XO Thailand Royal State Railways, "Map showing alignment and profile line, Hua Wai to Thai Tako." 1:50,000, Bangkok, Thailand, August 1954.

AMS/ML

SL-2-23.50-36303-50

This map is printed in Thai with English numerals and translated title. The alignment portion shows stationing, drainage, and towns while the profile shows stationing, elevations, and two unknown (to the reviewer) parameters. Hua Wai, Thailand, is approximately 40 miles south of Nakhon Sawan, Thailand.

- L173-03-01-XO Thailand Royal State Railways, "Railroad profile between Nong Pladuk and Burma." 1:1,000, Bangkok, Thailand, 1945.

AMS/ML

SL-61-23.70-36306-1

This map is printed in Thai with English numerals and spotty English translations. The profile, with a horizontal scale of 1:100,000 and a vertical scale of 1:1,000 shows elevations, changes in grade, curves, and chainage. Town locations are included. The station 0+000 is Sathani Nong Pladuk, Thailand (13°49'N, 99°55'E), and the profile ends at station 414+916.

L174-03-01-XO Thailand Royal State Railways, "Railroad profile of the Ban Hua Wai to Tha Tako line, Km 204+062.35 to Km 254+000." 1:250, Bangkok, Thailand, AMS/ML 5L-63-23.70-36303-0.250 September 1944-September 1949.

This reference includes 11 blueprint sheets showing the profile of a line originating at Ban Hua Wai, Thailand (south of Nakhon Sawan, Thailand) and continuing eastward and northward to Tha Tako, Thailand. This profile has a vertical scale of 1:250 and a horizontal scale of 1:5,000. The sheets are printed in Thai with spotty English translations. The profiles give rail level, ground level, height of embankment, depth of cutting, formation level, and distance. Towns are located along the profile.

L175-01-04-XO Thailand Royal Survey Department, Catalogue of maps in service, Bangkok, Thailand, August 1956, 16 pp. DIA/DL EIF 248,551

This is a catalog of topographic maps at scales of 1:2,000,000, 1:1,000,000, 1:1,000,000 (special), 1:500,000, 1:200,000, 1:100,000, 1:50,000, and city plans. The coverage indicated is printed in both Thai and Thai and English. Coverage indicated in the AMS stock catalog is more complete.

L176-03-02-XO Thailand Royal Survey Department, "Geographic map of Thailand." 1:1,200,000, Bangkok, Thailand, no date. AMS/ML 5L-1-15.00-36301-1.200/2

This colored wall map shows railroads, two classes of roads, cities, drainage, and topography by shading. The map has no coordinates.

L177-03-02-XO Thailand Royal Survey Department, "Geography map of Thailand." 1:2,000,000, Bangkok, Thailand, 1958. AMS/ML 5L-1-15.00-36301-2.000

This map is printed in Thai and shows major highways, towns, drainage, and relief by shades of green.

L178-03-01-XV Thailand Royal Survey Department, "Map of the Royal Kingdom of Siam." 1:250,000, Bangkok, Thailand, 1923, (printing date 1932). AMS/ML 5L-3-30.00-36301-250

The four colored sheets in this series are printed in Thai and cover the geographic area of 12°N to 13°N and 99°E to 102°E and 13°N to 14°N and 99°E to 100°E. One sheet has a translated legend. It shows railways; tramways; roads and highway; cart track; footpaths; telegraph lines; national, circle, province, and district boundaries; large, medium, and small towns; medium and small villages; areal extent of dense and open forest, rice paddies, salt fields, plantations, cultivated fields, plains, tall and short grass, and groves; yearly and seasonal streams; flooded areas; lowland near sea; 100-meter contours; form lines for hills less than 100 meters high; sand beach; and numerous cultural features. The maps have no internal coordinates, but bars along the side show each minute.

L179-03-01-XV Thailand Royal Survey Department, "Maps of Thailand." 1:25,000, Bangkok, Thailand, 1931-1954. AMS/ML 5L-23-30.00-36301-25

This series of monochrome maps is printed in Thai and almost complete coverage of the eastern part of Khorat Plateau is available. A few sheets are available for the area south and southeast of Songkhla, Thailand. The sheet examined shows drainage, communication routes, cultural features, and vegetation. The maps are contoured but the interval is unidentified on the sheet examined. The sheets are 5 minutes square and have 1-minute coordinates. An oralid index of coverage is available.

Surface Geometry, Maps

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L180-03-01-XV                      Thailand Royal Survey Department, "Maps of Thailand." 1:100,000, Bangkok, Thailand, 1909-1951.

AMS/ML  
5L-3-30.00-36301-100

This map series, which has both colored and monochrome maps, is printed in Thai and covers approximately 95 percent of that portion of Thailand south of 15°N. The sheet examined shows political boundaries, communication routes, drainage, cultural features, five vegetation types, and spot elevations. The maps are contoured with a 50-meter interval. The maps cover 20 minutes square, have corner coordinates, and have stub coordinates at each 10-minute interval. An ozalid index of coverage is available.

L181-03-02-XO                      Thailand Royal Survey Department, "North Central Thailand." 1:500,000, Bangkok, Thailand, no date (accession date 1947).

AMS/ML  
5L-2-28.00-36301-500/2

This map, printed in Thai, covers the approximate geographic area of 16°30'N to 18°30'N and 100°40'E to 102°30'E. The map shows cultural features, political boundaries, communication routes, drainage, and topography by hachures. The map has bar coordinates at 10-minute intervals with each degree accentuated.

L182-03-02-XO                      Thailand Royal Survey Department, "Northeast Thailand." 1:500,000, Bangkok, Thailand, no date (accession date 1947).

AMS/ML  
5L-2-28.00-36301-500

This map, a companion to the map "North Central Thailand," is printed in Thai, and covers the geographic area of 13°N to 17°N and 103°15'E to 106°E. It shows cultural features, political boundaries, communication routes, and topography by hachures. The map has 1-deg coordinates with a bar scale indicating each 10 minutes.

L183-03-02-XO                      Thailand Royal Survey Department, "Relief map of Thailand." 1:1,200,000, Bangkok, Thailand, 1948.

AMS/ML  
5L-1-15.00-36301-1.200

Four colored sheets cover Southeast Asia and show relief by shades, major highways, drainage, and railroads.

L184-03-01-XO                      Thailand Royal Survey Department, "Siam topographic configurations and communications." 1:2,500,000, Bangkok, Thailand, 1935.

AMS/ML  
5L-1-15.00-36301-2.500

This colored map is printed in Thai but has a translated title and legend. It shows roads, railroads, air and sea routes, cities, and drainage. Colors show elevation classes with divisions at 200, 500, 1000, 1500, 2000, and 3000 meters. The map has 1-deg coordinates.

L185-03-01-XV                      Thailand Royal Survey Department, "Thailand." 1:50,000, Bangkok, Thailand, 1910-1957.

AMS/ML  
5L-23-30.00-36301-50

These colored and monochrome sheets are printed in Thai and cover approximately 35 percent of the country. The majority of the coverage is located along the Gulf of Siam, Cambodian border, and Mekong River. The sheet examined shows four classes of political boundaries, six classes of types of communication routes, two drainage types, marshes, six vegetation types, spot locations of other species of vegetation, cultural features, and spot elevations. The maps are contoured with a 25-meter interval. The sheets cover 10 minutes square, have corner coordinates, and bars for each minute. An ozalid index of coverage is available.



L186-03-01-XV Thailand Royal Survey Department, "Thailand." 1:200,000, Bangkok, Thailand, 1917-1955.  
 AMS/ML  
 5L-3-30.00-36301-200

These colored and monochrome sheets are printed in Thai and cover the entire country. The sheet examined shows detailed communication routes, political boundaries, drainage, cultural features, and vegetation. Spot elevations are included and the maps are contoured at 200, 500, and 1000 meters. The sheets cover 1 deg square with 10-minute coordinates and stubs at each minute. An ozalid index of coverage is available.

L187-03-01-XV Thailand Royal Survey Department, "Thailand." 1:500,000, Bangkok, Thailand, 1941-1955.  
 AMS/ML  
 5L-3-30.00-36301-500

These 25 colored and monochrome sheets, printed in Thai, cover the entire country from its northern extremity down to 10°N, and two of the sheets cover the geographic area of 6°N to 10°N and from the eastern coast to 99°E. The sheet examined shows detailed political boundaries, communication routes, cultural features, drainage, and vegetation. The legend on these maps is the same as in the 1:200,000 series. Some spot elevations are included and the map is contoured with a 100-meter interval. The maps cover 3 deg of longitude and 2 deg of latitude and have 30-minute coordinates. An ozalid index of coverage is available.

L188-03-02-X0 Thailand Royal Survey Department, "Thailand." 1:2,000,000, Bangkok, Thailand, 1953.  
 AMS/ML  
 5L-1-26.00-36301-2.000

These three colored sheets printed in Thai, cover Thailand, Indochina, Malaya, and part of Burma. The maps show political boundaries, towns, communication routes, drainage, and spot elevations. The sheets are contoured with an irregular interval and the various divisions are colored. The map has 1-deg coordinates.

L189-03-01-XV Thailand Royal Survey Department, "Topographical map area of Phamong Dam site, Mekong River, Changwat Nongkhai." 1:20,000, Bangkok, Thailand, December 15, 1959.  
 AMS/ML  
 5L-2-30.00-36301-20

This photocopy covers the immediate vicinity of the damsite which is just upstream from Vientiane, Laos. Villages, sand and rice paddy areas, upper and lower damsite ranges, and spot elevations of the higher points in relation to river level are shown. The area is contoured with a 10-meter interval. The map has no coordinates. The map was compiled from 1:50,000 aerial photographs dated 10 January 1954 and the elevations shown may have errors of 5 to 10 meters.

L190-03-02-X0 Toseisha Company Tokyo, "Standard great East Asia map Siam French Indochina." Tasec-sha, Tokyo, Japan, 1:3,000,000, 1943.  
 AMS/ML  
 5L-1-26.00-31369-3.00

This is a captured Japanese colored map that includes Thailand, Indochina, and parts of Burma and China. Thailand is divided into five geographic areas, and the map shows political boundaries, communication routes, cultural features, and drainage. The map is shaded to give topographic effect. Air and sea routes are included, and six symbols are used to represent city sizes. The map has 5-deg coordinates and bars representing each 20 minutes.

L191-01-04-X0 United Nations Economic Commission for Asia and the Far East, Committee for Coordination of Investigations of the Lower Mekong Basin. Index of Topographic Maps of the Lower Mekong Basin as of 1 January 1961.  
 AMS  
 GAIJ43.7  
 C73  
 WRD/MCG/INF/L.74, Phnom Penh, Cambodia, December 29, 1961, 11 pp. maps.

This is a compilation of indices by the secretariat for the sixteenth session held

### Surface Geometry, Maps

3-8 January 1962 showing maps and photographs which would be useful in the Lower Mekong Basin Project. The indices show leveling networks; 1:40,000 and 1:20,000 aerial photographs; 1:250,000, 1:100,000, and 1:50,000 topographic maps; special topographic maps prepared by Canada; and special topographic maps of the tributaries which were prepared by the Japanese Reconnaissance Team. A very brief description of each map series is included.

L192-03-01-X0 U. S. Air Force Aeronautical Chart and Information Center, "Aeronautical planning chart." 1:5,000,000, 7th edition, St. Louis, Mo., 1955.

These colored sheets are on a Lambert conformal conic projection and sheets 6 and 13 cover the MERS study area. The maps show international, intercolonial and/or interterritorial, and state or province boundaries; large cities; small cities, and towns or villages; railroads; main roads; drainage; various types of aerodrome facilities; and aeronautical legend (various types of radio facilities and miscellaneous data). Spot elevations are included and the maps are colored to indicate six classes of elevation differential with divisions at 1000, 3000, 6000, 9000, and 12,000 ft. The location of World Aeronautical Charts are indicated and the map has 1-deg coordinates.

L193-03-01-X0 U. S. Army Air Forces, Headquarters, "Topographic map." 1:2,640,000, Washington, D. C., December 1943.

SEE: U. S. Army Air Forces, Headquarters, Climate of Bangkok (Thailand). General Climatic Information Guide No. 75, Washington, D. C., December 1943, 4 pp, maps.

L194-03-01-XV U. S. Army Map Service, CE, "Burma." 1:250,000, Washington, D. C., 1955-1963.

AMS/Series

U542

AMS/ML

3U-3-10.00-90000-250

These 46 colored sheets on a transverse mercator projection were prepared by AMS utilizing medium- and large-scale maps as well as other miscellaneous data and cover the majority of Burma including a portion of the Thai-Burma border. The maps show cities in five population classes; single- and multiple-track railroads of normal and narrow width; all-weather loose, all-weather hard, and dry-weather loose surfaced roads; cart tracks and footpaths or trails; international and state boundaries; air facilities; spot elevations and contours with an interval ranging from 100 to 500 ft; marsh or swamp, tropical grass, woodland, and plantations; coastal features; and drainage. The maps cover 1 deg of latitude and one 1-1/2 deg of longitude and have internal crosses at each 15 minutes. A glossary is included.

L195-03-01-XV U. S. Army Map Service, CE, "Burma." 1:250,000, Washington, D. C., various dates.

AMS/Series

U542P

This colored plastic relief series covers Burma, including portions of the Thai-Burma border, but at present there is only one of the border maps available. The series has the same characteristics as the flat 1:250,000 maps and has been molded to show a vertical exaggeration of 2:1 a/o 3:1.

L196-03-01-XV U. S. Army Map Service, CE, "Cambodia." 1:50,000, Washington, D. C., various dates.

AMS/Series

L7011

AMS/ML

22L-3-30.00-90000-50

This series of colored maps is on a transverse mercator projection and was prepared by AMS from Indochina 1:25,000 maps and partially revised by photo-planimetric methods from aerial photography. The maps cover approximately 25 percent of Cambodia including portions of the Thai-Cambodia border. The maps show all-weather hard and loose surface roads and fair-weather loose

surface roads of widths 2.4 to 4.8 meters and greater than 4.8 meters; cart tracks 1.5 to 2.4 meters wide; footpaths or trails less than 1.5 meters wide; single- and double-track railways of normal and narrow gauge; carline or railroad within road; international, changwat, amphoe, and king amphoe boundaries; developed areas and villages without vegetation coverage; telephone or telegraph lines and power-transmission lines; walls; levees; sand-road tunnels; railroad tunnels; railroad viaducts or bridges; footbridges; ferries; fords; masonry dam carrying roads; roads on levees; masonry and earthen dams; large rapids; large falls; revetments; changwat, amphoe, and king amphoe offices; monasteries with and without temples; camp sites; rest houses; pagoda or stupa; Christian churches; Chinese shrines; Mosques; schools; lighthouses; wells; springs; salt evaporators; perennial and intermittent lakes or ponds; woods or brushwood; scrub; hardwood forests; bamboo forests; tropical grass; plantations; swamps, rice fields; nipa; mangroves; horizontal control points; bench marks; checked and unchecked spot elevations; and contours with a 20-meter interval. The maps cover 10 minutes of latitude, 15 minutes of longitude, have corner coordinates, and tick marks at each 5 minutes. The maps also have the transverse mercator grid and a glossary is included.

L197-01-01-XO U. S. Army Map Service, CE, "Continental South-east Asia." 1:2,500,000,  
AMS/Series 3d edition, Washington, D. C., March 1962.  
1200

This colored map is on an oblique mercator projection and was compiled in 1960 from sheets 19 and 20, AMS series 1127, Strategic Planning Maps, 1:5,000,000, and miscellaneous source data. It includes the MERS study area from its southern extremity to approximately 15°N. The map shows population of towns in four classes; country and province capitals and boundaries; railways; all-weather, seasonal, and trail routes; all-weather and seasonal airfields; mangroves; swamp or marsh; drainage; and spot elevations. It is colored to show six elevation classes with divisions at 200, 500, 1000, 2000, 3000, and 4000 meters. The map has 1-deg coordinates and a glossary is included.

L198-01-01-XO U. S. Army Map Service, CE, "East Asia and North Pacific." 1:4,350,000,  
AMS/Series Washington, D. C., July 1962.  
1201

The ten colored sheets in this series are on a mercator projection; they were compiled in 1945 from Long Range Air Navigation Charts, 1:3,000,000, AAF, 1944, and slightly revised to update boundaries and transportation routes in 1955. Sheets 1 and 6 cover the MERS study area. The sheets show cities, small cities, towns and villages, international and administrative boundaries, railroads, surveyed and unsurveyed drainage, spot elevations, and contours. They are colored to show five elevation classes with divisions at 1000, 3000, 6000, and 12,000 ft. The sheets have 1-deg coordinates with bars at each 5 minutes.

L199-03-01-XO U. S. Army Map Service, CE, "Eurasia planning maps." 1:5,000,000  
(approximately), Washington, D. C., various dates.  
AMS/Series 1127

The 23 colored sheets in this series are on an oblique mercator projection and were compiled in 1955 from various small-scale map sources; sheets 19 and 20 cover the MERS study area. The sheets show five classes of populated places, single- and multiple-track railways, main roads and secondary tracks, international boundaries, airports, seaplane bases, spot elevations, drainage, and contours. The sheets are colored to represent 10 elevation classes and have divisions at 200, 500, 1000, 2000, 3000, 4000, 5000, 6000, 7000, and 8000 meters. The maps have 4-deg (even) coordinates and a glossary is included.

L200-03-01-XO U. S. Army Map Service, CE, "Europe, North Africa, and Asia."  
AMS/Series 1:4,000,000, Washington, D. C., 1954.  
1202

The 41 colored sheets in this series were compiled in 1926 and revised in 1941 and 1954 by Britain's General Staff, Geographical Survey as series 2597. The maps are on a conical orthographic projection and were reprinted by AMS; sheets 34 and 46 cover the MERS study area. They show railways completed and under construction; main roads, other roads, and tracks; telegraphs and major topographical features; towns of five degrees of importance; rivers, limits of

## Surface Geometry, Maps

navigation, and canals; marsh and swamp; spot elevations; and contours. Maps are colored to represent eight elevation classes with divisions at 200, 500, 1000, 1500, 2000, 2500, and 3000 meters. The sheets have 2-deg (even) coordinates and bars at each 10 minutes. A glossary is included.

1001-03-01-X0

U. S. Army Map Service, CE, "Indochina and Thailand." 1:250,000, Washington, D. C., various dates.

AMS/Series

1009

AMS/ML

2L-23-30.00-90000-250

This series of colored maps is on a transverse mercator projection, was prepared utilizing medium- and large-scale maps and miscellaneous data, and covers nearly all of Indochina and Thailand which is north of 10°N. The maps show five population classes of cities; single- and multiple-track railways of narrow and normal gauge; all-weather hard, all-weather loose, and dry-weather loose surfaced roads; cart tracks and footpaths or trails; international and state boundaries; air facilities; marsh or swamp; tropical grass; rice paddies; woodlands; plantations; coastal features; drainage; spot elevations; and contours at 50- or 100-meter intervals. The maps cover 1 deg of latitude and 1-1/2 deg of longitude and have internal crosses at each 15 minutes. A glossary is included.

1002-03-01-XV

U. S. Army Map Service, CE, "Indochina and Thailand." 1:250,000, Washington, D. C., various dates.

AMS/Series

1009P

This colored plastic relief series covers Indochina and Thailand north of 10°N with the exception of 11 sheets covering part of Northeast Thailand, Central Cambodia, and south South Vietnam. The maps have the same characteristics as the flat 1:250,000 maps and have been molded to show a vertical exaggeration of 3:1.

1003-03-02-X0

U. S. Army Map Service, CE, "Indochina and Thailand special strategic map." 1:3,000,000, 2d edition, Washington, D. C., 1945.

LC/ML

G8011.P1, 1945, .U5

This colored map was prepared from various maps and intelligence data and covers the geographic area of 8°N to 24°N and 99°E to 110°E. The map shows towns of four degrees of importance, main motorable and other roads, single- and double-track meter-gauge railroads, international boundaries, drainage, spot elevations, and topography by hachures. The map has 2-deg (even) coordinates.

1004-03-01-XV

U. S. Army Map Service, CE, "Laos." 1:50,000, Washington, D. C., various dates.

AMS/Series

17012

AMS/ML

4 L-3-30.00-90000-50

This series of colored maps is on a transverse mercator projection and was prepared by AMS from aerial photographs and other miscellaneous data. The maps cover approximately 30 percent of Laos including portions of the Thai-Laos border. These maps show all-weather hard and loose surface roads and fair-weather loose surface roads of widths 2.4 to 4.8 meters and greater than 4.8 meters; cart tracks 1.5 to 2.4 meters wide; footpaths or trails less than 1.5 meters wide; single- and double-track railways of normal and narrow gauge; carlines or railroads within roads; international, changwat, amphoe, and king amphoe boundaries; developed areas and villages without vegetation coverage; telephone or telegraph lines; power-transmission lines; walls; levees; sand-road tunnel; railroad tunnels; railroad viaducts or bridges; footbridges; ferries; fords; masonry dam carrying roads; roads on levees; masonry and earthen dams; large rapids; large falls; settlements; changwat, amphoe, and king amphoe offices; monasteries with and without temples; campsites; rest houses; pagoda or stupa; Christian churches; Chinese shrines; Mosques; schools; lighthouses; wells; springs; salt evaporators; perennial and intermittent lakes or ponds; woods; brushwoods; scrub; hardwood and bamboo forests; tropical grass; plantations; marsh or swamps; rice fields; nipa; mangrove; horizontal control points; bench marks; checked and unchecked spot elevations; and

contours at a 20-meter interval. The maps cover 10 minutes of latitude, 15 minutes of longitude, have corner coordinates, and tick marks at each 5 minutes. The maps also have the transverse mercator grid and a glossary is included.

L205-03-01-X0 U. S. Army Map Service, CE, "Southeast Asia Road maps." 1:1,250,000,  
AMS/Series Washington, D. C., January 1963.  
5308

The four colored sheets, prepared from various 1:250,000- and 1:253,440-scale maps, in this series are on a Lambert conformal conic projection, and they cover Thailand and Indochina. The map shows eight classes of roads or trails, route markers, railways, four classes of populated places, country and province boundaries and capitals, all-weather and seasonal airfields, mangroves, marshes or swamps, spot elevations, drainage, and contours. The map is colored to represent six elevation classes with divisions at 100, 200, 500, 1000, 2000, and 3000 meters. The map has internal crosses at each degree and bars along the side for each 5 minutes. A glossary is included.

L206-03-01-XV U. S. Army Map Service, CE, "Thailand." 1:50,000, Washington, D. C.,  
AMS/Series various dates.  
L708  
AMS/ML  
5L-3-30.00-90000-50

This series of colored maps is on a transverse mercator projection and was prepared by AMS from aerial photographs and the Thailand Royal Survey Department 1:50,000 maps. The series covers more than 90 percent of that portion of Thailand north of 7°N. The maps show all-weather hard and loose surface roads and fair-weather loose surface roads of widths 2.4 to 4.8 meters and greater than 4.8 meters; cart tracks 1.5 to 2.4 meters wide; footpaths or trails less than 1.5 meters wide; single- and double-track railways with tracks of normal and narrow gauge; carlines or railroads within roads; international, changwat, amphoe, and king amphoe boundaries; developed areas and villages without vegetation coverage; telephone or telegraph lines; power-transmission lines; walls; levees; sand-road tunnels; railroad tunnels; railroad viaducts or bridges; footbridges; ferries; fords; masonry dam carrying roads; roads on levees; masonry and earthen dams; large rapids; large falls; revetments; changwat, amphoe, and king amphoe offices; monasteries with and without temples; campsites; rest houses; pagoda or stupa; Christian churches; Chinese shrines; Mosques; schools; lighthouses; wells; springs; salt evaporators; perennial and intermittent lakes or ponds; woods; brushwood; scrub, hardwood, and bamboo forests; tropical grass; plantations; marsh or swamp rice fields; nipa; mangroves; horizontal control points; bench marks; checked and unchecked spot elevations; and contours at a 20-meter interval. The maps cover 10 minutes of latitude, 15 minutes of longitude, have corner coordinates, and tick marks at each 5 minutes. The maps also have the transverse mercator grid. A glossary is included.

L207-01-04-XV U. S. Army Map Service, CE, U. S. Army Map Supply System Catalog; Asia, Australia, and the Pacific: Medium and Large Scale (1:600,000 and larger)\*  
Washington, D. C., 1964, 190 pp.

This catalog is published annually with monthly supplements and covers all topographic maps issued by the Army Map Service at a scale of 1:600,000 or larger. The catalog shows the extent of the series and maps completed within the series. Brief series descriptions of type, format, symbols, source, and characteristics are given.

L208-01-04-X0 U. S. Army Map Service, CE, U. S. Army Map Supply System Catalog, World Small Scale (Smaller than 1:600,000)\* Washington, D. C., 1964, 44 pp.

This catalog is published annually with monthly supplements and covers all topographic maps issued by the Army Map Service at a scale smaller than 1:600,000. The catalog shows the series extent and maps completed within the series. Brief series descriptions of type, format, symbols, source, and characteristics are given.

\* For official use only.

Surface Geometry, Maps

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L209-03-01-XV U. S. Army Map Service, CE, "World." 1:1,000,000, Washington, D. C.,  
AMS/Series various dates.  
13C1

The colored maps in this series are on a Lambert conformal conic projection. They were prepared from medium- and large-scale maps or are revisions and reprints of other agency's maps. Twenty-one sheets, dated 1952-1963, cover the MERS study area. The sheets usually show populated areas of five importance classes; single- and multiple-track railroads completed, under construction, and abandoned; international, major administrative, and first-class administrative boundaries; cultural features; dual highways, main roads, secondary roads, other roads, and tracks and trails; coastal features; swamps; drainages; rice fields; spot elevations; form lines; and contours, though these may be varied on the individual sheets. The maps are colored to show elevation classes with divisions at 150, 300, 600, 900, 1200, 1500, 2000, 2500, 3000, 3500, and 4000 meters. Town importance and railroad and road classifications are defined for the countries involved. The sheets cover 4 deg of latitude and 6 deg of longitude and have 1-deg coordinates with bars at each 5 minutes. A glossary is included.

L210-01-04-XG U. S. Army Map Service, CE, Far East, Foreign Map Accessions. \* Various  
dates, various pages.

L211-03-02-XO U. S. Army Quartermaster General, Research and Development Division,  
"Southeast Asia terrain." 1:14,400,000, Natick, Mass., August 1953.  
SEE: U. S. Army Quartermaster General, Research and Development Division,  
Environment of Southeast Asia. Environment Protection Division Report No. 219, Natick, Mass., August 1953, 45 pp, illus, maps.

L212-03-02-XSVC U. S. Army Service Forces, Headquarters, Atlas of World Maps. Army  
AMS Specialized Training Program, Army Services Forces Manual M-101, Wash-  
G1019 ington, D. C., November 1943, 13 pp, 30 plates.  
U58

This atlas of colored maps at a scale of 1:75,000,000 is intended to assist the trainee in studies of physical, economic, and political geography. The maps are prepared on a sinusoidal equal-area projection base and portray landforms, climate, soils, and vegetation, in addition to the political and economic maps. The scale of presentation precludes any quantitative use of these maps; e.g. the entire MERS study area is shown as lateritic soils. The test portion gives a brief general description of each of the maps.

L213-03-01-XO U. S. Bureau of Reclamation, "General map of Kamphaeng Phet Basin, Yan-  
AMS/ML hee Project." \* 1:50,000, drawing number OA-18-304, Denver, Colo.,  
5L-2-30.00-90572-50 October 10, 1956.

The two photocopy sheets, which compose this map, were prepared from 1:200-scale 5-minute quadrangles, which were prepared by Air Survey Company, Limited. The sheets cover a band along either side of the Ping River from 99°30'E to Nakhon Sawan and show towns or populated areas, tracks, highways completed and under construction, elevations along highways, dry streams, ponds, drainages, and 10-ft contour intervals. The sheets have 5-minute coordinates.

L214-03-01-XH U. S. Bureau of Reclamation, "Yanhee Dam and Power Plant diversion of river  
plan and sections." 1:2015, Denver, Colo., October 10, 1955.  
SEE: U. S. Bureau of Reclamation, Report on Yanhee Project, Thailand for  
Power, Irrigation, Flood Control & Navigation. Prepared for the  
Royal Irrigation Department of Thailand, Denver, Colo., December  
1955. two volumes, illus, maps.

L215-03-01-XH U. S. Bureau of Reclamation, "Yanhee Dam and Power Plant two unit initial installation plan and section." 1:3075, Denver, Colo., October 12, 1955.

SEE: U. S. Bureau of Reclamation, Report on Yanhee Project, Thailand for Power, Irrigation, Flood Control & Navigation. Prepared for the Royal Irrigation Department of Thailand, Denver, Colo., December 1955, two volumes, illus, maps.

L216-03-01-XH U. S. Bureau of Reclamation, "Yanhee Dam site location of exploration," 1:2400, Denver, Colo., November 1954.

SEE: U. S. Bureau of Reclamation, Report on Yanhee Project, Thailand for Power, Irrigation, Flood Control & Navigation. Prepared for the Royal Irrigation Department of Thailand, Denver, Colo., December 1955, two volumes, illus, maps.

L217-03-01-XH U. S. Bureau of Reclamation, "Yanhee Power Plant Powerhouse location study." 1:2015, Denver, Colo., no date.

SEE: U. S. Bureau of Reclamation, Report on Yanhee Project, Thailand for Power, Irrigation, Flood Control & Navigation. Prepared for the Royal Irrigation Department of Thailand, Denver, Colo., December 1955, two volumes, illus, maps.

L218-03-02-X0 U. S. General Staff, Military Information Division, "Map of Indochina and Siam." 1:2,500,000, Manila, the Philippine Islands, February 11, 1908.  
AMS/ML  
2L-1-29.00-90081-2.500

This blueprint map covers the geographical area from 8°45'N to 23°N and 96°30'E to 108°15'E. It shows towns, sea routes, drainages, and topography by hachures. The map has 2-deg (even) coordinates.

L219-03-01-X0 U. S. Geological Survey, Military Geology Branch, for Office, Chief of Engineers, "Thailand-Cambodia border area." 1:700,000, Washington, D. C., December 1956.  
AMS/ML  
22L-2-15.00-90183-700

This colored map was probably prepared from "Carte Routiere de l'Indochine," 1:400,000, Institut Geographique National, 1950 and 1952. It covers the geographic area from 10°N to 14°45'N and 102°E to 106°E with the portion from 11°50'N southward and 104°20'E eastward being taken out for the legend. The map shows surfaced and unsurfaced roads, trails, and paths; meter-gauge railroads; principal and secondary cities, towns or villages, and unnamed settlements; and drainage. The map is colored to show six elevation classes with divisions at 200, 500, 1000, 1500, and 2000 meters and has 1-deg coordinates.

L220-03-01-X0 U. S. Geological Survey, Military Geology Branch, for Office, Chief of Engineers, "Thailand hypsometry." Map No. 17067, 1:3,200,000, Washington, D. C., no date.  
AMS/ML  
5L-1-15.00-90183-3.200

This colored map shows eight elevation classes with divisions of 0-250, 250-500, 500-1000, 1000-2000, 2000-3000, 3000-5000, 5000-7000, and 7000-10,000 ft. National and Changwat capitals, other towns, drainage, and mountain passes into Burma are presented. The map has 2-deg (even) coordinates. A glossary is included.

L221-03-02-X0 U. S. Geological Survey, Military Geology Branch, for Office, Chief of Engineers, "Thailand terrain diagram." 1:3,600,000, Washington, D. C., 1954.  
AMS/ML  
5L-1-30.50-90183-3.600

Surface Geometry, Maps

Primary information shown in this map includes international boundary, national capital, principal cities, and spot elevations. Drainage and topography by hachures are shown as basic information and the map has 2-deg coordinates.

L222-03-02-XO                    U. S. National Intelligence Survey, "Thailand terrain and transportation,"  
AMS/ML                            1:3,300,000, Washington, D. C., October 1957.  
5L-1-26.00-90183-3.300

This colored map shows international boundary, national capital, and other towns, principal ports and airfields, selected main routes and secondary roads, railroads, drainage, and spot elevations. The Khorat Plateau, Mae Nam Chao Phraya Lowlands, and Isthmus of Kra are located in the map, and the map is shaded to represent topography. A glossary is included. The map has 2-deg (even) coordinates.

L223-03-01-XO                    U. S. Office of Strategic Services, Research and Analysis Branch, "Thailand  
AMS/ML                            and French Indochina territorial retrocessions 1941." 1:3,000,000, map  
5L-1-28.00-90560-3.000/2 No. 5341, November 11, 1944.  
2L-1-28.00-90560-3.000/2

This colored map covers the geographic area from 8°N to 22°N and 95°E to 110°E and shows Thailand acquisitions of 1941. The two areas involved were that portion of Indochina lying south and west of the Mekong River bordering Northern Thailand and a strip along the southeastern Thailand border. These areas have been returned to the jurisdiction of Laos and Cambodia. The map also shows political boundaries, drainage, and contours. The map is colored to indicate elevation classes and has divisions at 200, 500, 1500, and 3000 meters.

L224-03-01-XO                    U. S. Office of Strategic Services, Research and Analysis branch,  
AMS/ML                            "Thailand French Indochina territorial changes 1867-1907." 1:3,000,000,  
5L-1-28.00-90560-3.000 map No. 5340, November 11, 1944.  
2L-1-28.00-90560-3.000

This colored map covers the geographic area from 8°N to 22°N and 95°E to 110°E and shows French acquisitions from 1867 to 1907. These acquisitions included all of Indochina with the exception of South Vietnam and a portion of North Vietnam. The map also shows political boundaries, drainage, and contours. The map is colored to indicate elevation classes and has divisions at 200, 500, 1500, and 3000 meters.

L225-03-02-XO                    U. S. Operations Mission, Thailand, Public Works and Engineering Division,  
AMS/ML                            "Map of Thailand." 1:1,000,000, January 6, 1958.  
5L-1-26.00-90204-1.000

This photocopy shows state highways completed and proposed, state railways, airports, towns, distances between junctions, drainage, and unidentified contours.

L226-03-01-XH                    U. S. Operations Mission, Thailand, "Lam Dom Noi Mapping Project Thailand."  
AMS/ML                            1:250,000, Bangkok, Thailand, no date.  
2L-32-7.67  
90204-250

L227-03-01-XS                    Veeraburus, Manas, Sadaana, P., and Chainarong, Su Dan, "Geologic sketch  
AMS/ML                            map of the I Pa tungsten-tin mine, Pilo District." 1:25,000, plate  
5L-2-14.00                        no. 13, U. S. Geological Survey, Washington, D. C., 1951.  
90200-25



**SOILS AND GEOLOGY SECTION**

## Text

SI-02-02-XO Agocs, W. B., and Curtis, C. E., Interpretation; Airborne Magnetometer-Scintillation Counter Survey in Chiang Khan-Loei, Nakhon Sawan, Chachoengsao Areas of Thailand. Thailand Royal Department of Mines, Bangkok, Thailand, 1959, 141 pp, illus, maps.

USGS  
295(635)  
qAg71

This aeromagnetic survey was conducted to determine responses in areas of known mineralization, to determine possibilities of extending areas of known mineralization, to locate magnetic iron ore concentrations, to determine structural conditions favorable to the concentration of non-ferrous minerals, and to define general geologic conditions. Magnetometer profiles were also taken over the Khorat Plateau to determine sedimentary thicknesses and basement structure and its effect on sedimentary structure. The scintillation counter surveys were made primarily to locate surface concentrations of uranium and thorium and secondly to aid in the interpretation of the aeromagnetic data. A section gives general geology, physical descriptions of the study areas, and stratigraphy. The individual anomalies are explained with the logical conclusions being presented. Appendixes give detailed survey data and methods of interpretation. Four maps are included.

The first map, "Reconnaissance profiles," covers the geographic area of 13°N to 18°30'N and 98°30'E to 104°30'E and shows the locations of the surveys, major highways, railroads, and cities.

The three remaining maps, "Total magnetic intensity Chiang Khan-Loei, Nakhon Sawan, and Chachoengsao areas," cover the geographic areas of 17°15'N to 18°N and 101°30'E to 102°E, 15°10'N to 15°30'N and 100°10'E to 100°25'E, and 13°25'N to 13°47'30"N and 101°02'30"E to 101°40'E, respectively. Each of these shows isodynamic lines of gamma units, contact zones, fault zones, radioactivity changes, structure contours, mineralized zones and location of proposed ground study traverses, basement depth estimates, scintillation features and anomalies, and magnetic anomalies for final and preliminary reports. None of the maps have scales and all have corner coordinates.

SI-02-02-XO Alexander, Joseph P., "A short outline of the geology of Malaya with special reference to Mesozoic orogeny." The Crust of the Pacific Basin, American Geophysical Union Monograph No. 6, Washington, D. C. (1962), pp 61-86, maps.

WES  
QE501  
.A5

This article describes the dominant structure of the peninsula as being an extension of the Mesozoic fold-mountain system originating in eastern Burma and ultimately swinging eastward to link with Borneo. The Paleozoic and Mesozoic, Tertiary, and Quaternary sedimentary rocks; effusive igneous rocks and intrusive acidic and basic igneous rocks; and metamorphic rocks of the peninsula are concisely described. Tables give geological age and lithological units for stratigraphical succession in Malaya and exact location, method of determination, and age of six igneous specimens. Two colored maps dated 1958 with a scale of 1:5,500,000 are included. The first map, "Thai-Malay Peninsula geological map," shows the areal extent of Quaternary, Tertiary, Mesozoic, Paleozoic-Younger, and Paleozoic-Older sedimentary rocks and acidic and basic intrusive and effusive igneous rocks. The second map, "Thai-Malay Peninsula tectonic map," shows the areal extent of Mesozoic and Paleozoic-Older sedimentary rocks and inferred synclinal and anticlinal axes. The synclinal and anticlinal axes follow the trend of the Mesozoic and Paleozoic-Older rocks, respectively. Each of the maps also shows major towns and drainage and railroads and have 1-Jag coordinates.

SI-01-02-XO Aranyakanond, Payome, "Diamond discovery in Phangnga and Phuket, South Thailand." Report of Investigation No. 1, Thailand Royal Department of Mines, Bangkok, Thailand (1955), pp 35-36, illus.

USGS  
402(635)  
S12r1  
No. 1

The possible source of diamonds discovered in tailings of tin mines on the west coast of south Thailand is discussed. Conglomerates of the Phuket series and pegmatitic differentiates of tin-bearing granites, both occurring widely in Thailand, are considered likely sources. The author describes the weight, crystallography, and mineral associations of diamonds found at Phuket Tin Dredging, Ltd., Phuket province and at Kamunting Tin Dredging, Ltd., Phangnga province. These diamonds were found in tailings and the exact source is not known; however, if it is in the Phuket Series, which is a strong possibility, diamond deposits in Thailand may turn out to be rather extensive.

- S4-01-02-XO Aranyakanond, Payomc, and Nilkhuha, Chana, "Radio-active minerals from tin and tungsten mines in Thailand." Report of Investigation No. 1, Thailand Royal Department of Mines, Bangkok, Thailand (1955), pp 41-46.
- USGS  
402(635)  
Si2r1  
No. 1
- Monazite and a uraniferous columbium-tantalum mineral have been found in mine tailings of tin and tungsten ores genetically associated with late Cretaceous granite of Thailand. The article describes the basic occurrence and general locations of the tin belt, as well as a few general mining and refining methods employed. Chemical analysis and mineralogy of several samples are given.
- S5-01-02-XG Asanachinta, Boon Phool, Land Utilization in Thailand, Master of Arts Dissertation, University of Chicago, Chicago, Ill., 1950.
- S6-02-02-XHCV Baker, Vernon W., and Stanley, William R., A Special Review of the Tank Irrigation Program in Northeast Thailand. United States Operation Mission, Bangkok, Thailand, July 7, 1955, 30 pp, illus, maps.
- S7-01-02-XGLVHC Blanchard, Wendell, Thailand, Its People, Its Society, Its Culture. HRAF Press, New Haven, Conn., 1957, 258 pp, maps.
- S8-01-02-XO Blanck, von E., Credner, W., and Olderhausen, E., "Beitrag zur chemischen Verwitterung und Bodenbildung in Siam." Chemie der Erde, vol 9, No. 4, Jena, Germany (1935), pp 410-452.
- SEE: Blanck, von E., Credner, W., and Olderhausen, E. (Translated by R. L. Pendleton), Contributions to the Knowledge of Chemical Weathering and Soil Formation in Siam. Siam Department of Agriculture and Fisheries, Technical Bulletin No. 2, Bangkok, Thailand, 1937, 60 pp.
- S9-01-02-XO Blanck, von E., Credner, W., and Olderhausen, E. (Translated by R. L. Pendleton), Contributions to the Knowledge of Chemical Weathering and Soil Formation in Siam. Siam Department of Agriculture and Fisheries, Technical Bulletin No. 2, Bangkok, Thailand, 1937, 60 pp, illus.
- USDA  
22.5  
Si1T
- On the basis of this study, it is shown that soil characteristics are functions of morphology, relative relief, parent material, and climate. Formation of soils in each physiographic region of Siam is discussed. Soils in these regions do not always conform to the common conceptions of tropical weathering. Soils in the floodplains are usually gray, in contrast to the yellow, brown, or red earths in areas with relief. Soils developed on granite, dolomite, and schist can be distinctive. The hilly theralite (basalt) terrain at No Flot in the west exhibits a characteristic soil profile. Other topics of interest in environmental studies include a normal profile for the Khorat Plateau.
- S10-01-02-XO Blondel, F., "Les connaissances géologiques en 1930 sur l'Extrême-Orient Meridional." Bulletin de Société Géologique de France, vol 39, Part 5, Paris, France (1931), pp 321-432.
- USGS  
G(540)  
F54

The geology of Southeast Asia and adjacent islands is described in this French report. The accompanying geologic map, at a scale of 1:20,000,000, is very generalized. A 6-page bibliography is included.

Soils and Geology, Text

- S11-01-01-XV      Boonkird, Sa-ard, Dawson, M. D., and Stone, E. L., Jr., "A preliminary study of teak soils and sites in Lampang Province, Thailand, June 1960." USDA 330.9      Journal of the National Research Council of Thailand, vol 1, Inaugural No., N2194      Bangkok, Thailand (November 1960), pp 27-75.

Approximately 25 sites were investigated to determine soil characteristics and vegetation. Soils were classified according to morphology, physical characteristics, and laboratory analysis of organic and phosphate content, pH, wilting point, and field capacity. Vegetation was classified according to height, girth, and volume of teak. The regions and method of study are briefly outlined preceding a detailed description of the soils in terms of parent material, drainage, horizon, depth, thickness, and general factors of color, soil type, texture, pH, and root capacity. Laboratory procedures are outlined and a detailed discussion of the results is included. Several photographs are included and a bibliography concludes the report.

- S12-01-02-XV      Bourke-Borrows, D. R. S., "The teak industry of Siam." Technical and Scientific Supplement to the Record, No. 3, Siam Ministry of Commerce and Communications, Bangkok, Siam (October 1927), 52 pp, illus, map. USDA 269      S114A

- S13-01-02-XGLVHC      Bowring, Sir John, The Kingdom and People of Siam; with a Narrative to the Mission to That Country in 1855, 2 volumes, John W. Parker and Son, London, England, 1857, 482 and 446 pp, illus, map.

- S14-01-05-XO      Bramed, D. L., and Dudal, R., Tropical Soils. United Nations Food and Agriculture Organization, Rome, Italy.

Not available for review. Scheduled for publication in 1965.

BRITISH

SEE: Great Britain

- S15-02-02-XO      Brown, Glen F.; Burevas, Saman; Charaljevanaphet, Junchet; Jalichandra, Nitipat; Johnston, William D., Jr.; Sresthaputra, Vijsa; and Taylor, George C., Jr., "Geologic reconnaissance of the mineral deposits of Thailand." Geological Survey Memoir 1, Thailand Royal Department of Mines, Bangkok, Thailand (1953), n.p.

This publication is the same as the authors' work appearing in the U. S. Geological Survey Bulletin, No. 984.

- S16-02-02-XLC      Brown, Glen F.; Burevas, Saman; Charaljevanaphet, Junchet; Jalichandra, Nitipat; Johnston, William D., Jr.; Sresthaputra, Vijsa; and Taylor, George C., Jr., Geologic Reconnaissance of the Mineral Deposits of Thailand. U. S. Geological Survey Bulletin No. 984, Washington, D. C. 1961, 181 pp, illus, maps. ANS T1113 T3867

This report presents an extensive study of Thailand's mineral resources and includes brief sections on topography and climate. Five physiographic provinces and climatic regions are described. Extreme temperature and rainfall values are presented in the climatic section. The geology of Thailand from Cambrian through Quaternary is discussed in the mineral resources section. The various rock units are described as to their physical character, thickness, principal areas of occurrence, and economic use. A stratigraphic chart is included. Data on occurrence, distribution, character, and production of the principal mineral deposits comprise the bulk of the report.

These deposits include tin, tungsten, lead, zinc, antimony, and bismuth, which are produced principally for export; and iron, manganese, building stone, road metal, cement materials, clay, gypsum, quartz feldspar, salt, soapstone, coal, and a phthalic acid, which are used for domestic use. Twenty plates or maps and numerous photographs and large-scale drawings are included. These maps are described in order of arrangement and credit is given to the author or authors of the respective sections to which they apply. This report presents the latest and most complete descriptions of Thailand's mineral resources and geology.

Plate 1 is the "Map of Thailand showing principal cities and political subdivision," by Vija Breesthaputra. This map, at a scale of 1:2,500,000, shows Changwat boundaries and capitals, a few roads, railroads, and drainage and has 1-deg coordinates.

Plate 2 is the "Chart showing mean monthly distribution of rainfall in Thailand," by Vija Breesthaputra. This chart, comprised of 12 maps at an approximate scale of 1:15,000,000 representing each month of the year, has isohyetal lines at the 25-, 50-, 75-, 125-, 200-, 300-, 400-, and 500-mm levels.

Plate 3 is the "Chart showing mean monthly distribution of temperature in Thailand," by Vija Breesthaputra. This map, at a scale of 1:16,000,000, has isothermal lines at 2-deg intervals from 13 to 34 deg centigrade.

Plate 4 is a "Diagrammatic sketch of the physiographic provinces of Thailand," by Vija Breesthaputra. This sketch, at an approximate scale of 1:2,500,000, shows five physiographic provinces, major cities, towns, hills and mountains, and drainage. The physiographic provinces are not well defined.

Plate 5 is a "Reconnaissance geologic map of Thailand" compiled by the Thailand Royal Department of Mines, Geologic Staff. This map, at a scale of 1:2,500,000, shows the areal extent of sedimentary, metamorphic, and igneous rocks. The sedimentary and metamorphic rocks are the Cambrian (?) Baekert series, (?) Oriskany (?) and Carboniferous Kanchanaburi series, Carboniferous (?) and Permian Rat Buri limestone, Triassic and Jurassic Khorat series, Tertiary Mae Sot and Krabi series, and Quaternary alluvium and terrace deposits. The igneous rocks are pre-Tertiary and Tertiary diorite, quartz diorite, granite, and andesite and rhyolite porphyry. The map also shows railroads, drainage, and major cities, and has 1-deg coordinates.

Plate 6 is the "Reconnaissance geologic map of the Nong Phat lea-tin area, Changwat Kanchanaburi," by Glen F. Brown, Kasetr Pitakpraiyuan, and Sangsup Kueo Phithum. This map, at a scale of 1:7,500, shows altered wall rock and golem, sulfide minerals, shear zones with dip, strike and dip of limestone beds and joints, adits, mine camps, limestone breccia, and a cave. The area is contoured at a 10-meter interval.

Plate 7 is the "Geologic map and section of the Kai Tai Point manganese deposits, Ko Krue, Changwat Chon Buri," by George C. Taylor, Jr., and Saman Buravan. This map, at a scale of 1:4,000, shows the areal extent of sand, sand and gravel with manganese oxide pebbles, manganese oxide capings, low tide and high tide, spot locations for quartz veins, with dips, strike and dip of beds, and a coral bank. The mapped portion of the island is contoured at a 5-meter interval. The cross section shows sandstone, slate, and manganese oxides.

Plate 8 is the "Geologic sketch map of the Mae Sariang tungsten district, Changwat Mae Hong Son," by Glen F. Brown and Nitipat Jalichandra. This map, at a scale of 1:20,000, shows the areal extent of sandy shale, shale, and phyllite; sand and gravel; sandstone and quartzite; marbled limestone or marble; and granite. Quartz veins and mines are located, and the area is contoured at a 50-meter interval.

Plate 9 is the "Geologic sketch map of the Mae Luma tungsten lode and adjacent lenses, Mae Sariang District, Changwat Mae Hong Son," by Glen F. Brown and Nitipat Jalichandra. This map, at a scale of 1:4,000, shows the areal extent of granite, sandy shale, and sandstone and the location and dip of the quartz-wolframite vein. The area is contoured at a 20-meter interval.

Plate 10 is the "Geologic sketch map of the Pilok tungsten mine, Pilok District," by Vija Breesthaputra and Junchet Charalavanaphet. This map, at a scale of 1:4,000, shows lodes with dip, brecciated zones, tunnels and entries, open cuts, and shafts. Three mass es are included, and the map is contoured at a 10-meter interval.

Plate 11 is the "Geologic section along a cross cut at Pilok tungsten mine, Pilok District," by Glen F. Brown, Vija Breesthaputra, and William D. Johnston, Jr., at a scale of 1:60. The section shows vein quartz, mica bulvage, black tourmaline stringers, white clay gouge, and intensely altered granite.

Plate 12 is the "Geologic sketch map of Khao Mai tungsten-tin mine, Pilok District," by Glen F. Brown, P. Sudasna, and Su Pan Chaisarong. This map, at a scale of 1:400, shows the areal extent of overburden, greisen, quartz-wolframite veins with dips, coarse mica and locations of tourmaline stringers, solution surfaces of crystal molds, wolframite crystals, quarry extent, entries and underground workings, and shafts. A generalized cross section is included.

Plate 13 is the "Geologic sketch map of the I Pu tungsten-tin mine, Pilok District," by Monas Veeraburus, P. Sudasna, and Su Pan Chaisarong. This map, at a scale of 1:25,000, shows the areal extent of phyllite, greisen, quartz veins with dips and locations of faults with dips, underground workings and entry, and shafts. The area is contoured at a 5-meter interval.

Plate 14 is a map showing "Distribution of mining concessions and granite bodies in Southern

Thailand," by Glen F. Brown and others. This map, at a scale of 1:12,000,000, covers Thailand south of 11°N and shows areal extent of granite and mining concessions. Railroads, towns, and provincial boundaries are included.

Plate 15 is the "Sketch of geologic plan and section of the Chon tin mine, Changwat Phrayang," by Glen F. Brown and George C. Taylor, Jr. This map, at a scale of 1:150,000, shows areal extent of tin-bearing pegmatite, schist, quartzitic schist, epidiorite, cassiterite concretions, and fluorescent zones with topaz, scheelite, powellite, and fluorite. A section along the south face of the quarry is included.

Plate 16 is the "Sketch map of the Chenkit tin mines, Changwat Surat Thani," by Vija Chanthaputra, Nuchet Charaljanaphet, and George C. Taylor, Jr. This map, at a scale of 1:150,000, shows the areal extent of talc, granite, limestone, hydraulicked areas, and iron ore. Contour lines with dips are included.

Plate 17 is the "Geologic map of Phuket Island, Thailand," by Sa-ngob Kaew Phitul, Din Sungrat, and Lancel Islangkool. This map, at a scale of 1:300,000, shows the areal extent of Cambrian (?) Phang Nga series, phyllite and quartzite, granite, Quaternary alluvium, and tin-bearing alluvium. Roads, drainage, and towns are included, and the area is contoured at a 100-ft. interval.

Plate 18 is the "Sketch map of the Phayok-Lau tin area, Changwat Yalo," by Vija Chanthaputra and William D. Johnston, Jr. This map, at a scale of 1:65,000, shows the areal extent of limestone, shale, granite, and ore bodies within the area. Roads and mine locations are included.

Plate 19 is a "Geologic map of the Mae Sot area, Changwat Tak," by Saman Buravas, Phunawan Kamnuchuan, Phayon Aranyakanon, and Boorod Sukhonthani Korn. This map, at a scale of 1:150,000, shows the areal extent of Carboniferous and Permian Rat Buri limestone, Triassic and Jurassic Khon series, Tertiary Mae Sot series, and Quaternary terrace deposits and alluvium. Spot locations of strata and dips, fossil localities, oil shale exposures, and syndinal axis are shown. Towns, drainage, and a generalized E-W cross section are included. Ten-minute coordinate traverse the map.

Plate 20 is the "Geologic sketch map of the Mae Fang Basin, Changwat Chiang Mai," by Glen F. Brown, Rajarat Jalichandra, and George C. Taylor, Jr. This map, at a scale of 1:150,000, shows the areal extent of schist, crystalline limestone, slate or phyllite, shale, sandstone or quartzite, Kanchaburi series, Rat Buri limestone, older granite, Khon series, younger granite, fluvial and lacustrine deposits, and Recent stream deposits. Roads, towns, villages, oil and water wells, asphaltic seeps, a cave, hot springs, and a Pagoda are included.

117-1-01-X0 Bruce, A. "A contribution to the study of the paddy soils of Ceylon and eastern countries." Ceylon Department of Agriculture Bulletin, No. 57, Colombo, Ceylon (1932), p 54.

This article was unavailable for review but in An Annotated Bibliography of Rice Soils and Fertilizers, Commonwealth Bureau of Soil Science, Harpenden, England, and United Nations, Food and Agriculture Organization, Rome, Italy, August 1954, by Graham Vernon Jacks and M. Kathleen Milne, the following annotation is given.

Mechanical and chemical analyses of soils from several districts and average plant nutrient contents are given. Soils are compared with those of India, Burma, Federated Malay States, Japan, Philippine Islands, and Siam."

118-1-01-X0 Buravas, S., "Laterite in Siam." Standard, No. 46, Bangkok, Thailand (April 19, 1947), pp 11-12.

Not available for review.

119-1-01-X0 Buravas, S., "Stratigraphy of Thailand." Proceedings of 9th Pacific Science Congress, 1957; Vol 12. Geology and Geophysics, Bangkok, Thailand (1961), pp 301-309, map.

The current knowledge on stratigraphy and paleontology is reviewed in this paper. A map at a scale of 1:5,000,000 shows fossil localities indexed according to geologic age.

120-1-01-X0 Buravas, Samak, "Limestone hills of Siam." Standard, No. 5, Bangkok, Thailand (July 6, 1946), p 11.

LC  
AP  
11

Best Available Copy

This article briefly describes the morphology and soils of limestone hills found over large portions of the country. The hills are peculiarly rugged and usually bare cliffs separate vegetated lower slopes from the tree-covered tops. Terra Rossa soils are commonly developed, and in the Lop Buri region, hematite is found below the Terra Rossa. Elsewhere, a dark plastic clay overlies a white precipitate of calcium carbonate.

S21-01-02-X0 Buravas, Samak, "Siamese zircons." Standard, No. 16, Bangkok, Thailand  
 LC (September 21, 1946), p 12.  
 AP8  
 .57

A wide variety of grades of zircon is produced in Thailand and this paper briefly summarizes the properties, uses, and sources of zircons. Zircons have been found at Klung in Chantaburi province and at Pailin in Phratabong province and at Pakse, Laos, and Do Kao Noi, Cambodia. The principal source is the widely scattered, small bodies of basalt (in some cases identified as nepheline basanite) in which zircons and also sapphires are embedded.

S22-01-02-X0 Buravas, Smagar, "Marble working in Saraburi." Mining Gazette, Bangkok, Thailand (August 1958), 8 pp.  
 DIA/DL  
 EIF  
 327381

The geology and types of deposits which consist of chert, siliceous shale, shaly limestone, and recrystallized limestone with intermediate types are presented. The various deposits are briefly described. Exposures at Khao Ngawb, Khao Nok, the ranges north and south of Chum Tak, the friendship highway from Tab Kwang to Pak Chong, Khao Yawd (Lop Buri), Phra Bart, Pu Kare, and Muak Lek Yong are briefly described. Details of eight concessions which are composed of Permian limestone in the Phra Bart and Saraburi districts are presented.

S23-01-02-X0 Buravas, Smak, "The cupriferous schist of Phnom Sarakam," Siam Science Bulletin, vol 5, No. 1, Bangkok, Thailand (1948), pp 1-9, map.  
 USGS  
 S(635)  
 T32

Precambrian schist southeast of Phnom Sarakam contains cupiferous pyrite occurring as disseminated veinlets. Mineralization is thought to have occurred prior to metamorphism and is due to an impregnation of the original sediments by migrating solutions originating from a deep seated igneous body. Mineral analysis is given for the schist and a small-scale location map is included.

S24-01-02-X0 Buravas, Smak, "Preliminary notes on the geology of Thailand." Thai Science Bulletin, vol 7, No. 1, Bangkok, Thailand (1952), pp 7-43.  
 USGS  
 S(635)  
 T32

The first of two parts gives background on other efforts to define geology of Thailand. These notes include a bibliography on Thailand and discuss the physical geography of Thailand dividing the country into seven physical regions. Brief discussion on climate and vegetation is given. Most of the discussion on stratigraphy deals with Precambrian rocks. Various types and extent of igneous and metamorphic rocks occurring in Thailand are included. The author attempts to correlate rocks of Thailand with those of neighboring countries.

S25-01-05-X0 Buravas, Smak, "Preliminary notes on the geology of Thailand." Thai Science Bulletin, vol 7, No. 2, Bangkok, Thailand (1952).  
 USGS  
 S(635)  
 T32

Not available for review.

Soils and Geology, Text

- S26-01-02-X0 Buravas, Smak, and Buravas, Saman, "Study of gold ores from Toh Moh, Krabin, and Ta Tago." Thai Science Bulletin, vol 3, No. 1, Bangkok, Thailand (January 1941), pp 1-10, illus.

Gold has been reported in 28 Changwads of Thailand, but only one mine is in operation. The gold in the Toh Moh district occurs in quartz veins intruding granite and schist; gold in the Krabin district occurs in limestones. The gold in the Ta Tago district occurs in green calcium garnet which was formed by the intrusion of quartz diorite into a quartz monzonite porphyry.

- S27-01-01-X0 Cero, Magdaleno M., "Preliminary studies of certain physical properties of some Siamese soils." Siam Science Bulletin, No. 2, Bangkok, Siam (September 1938), pp 1-27.  
USGS  
S(635)  
T32

This is a discussion of methods for classifying and mapping soils. Samples of soils in Siam were examined by mechanical analysis and also by tests for sticky point, rolling-out point, apparent and real specific gravity, absorption of water, pore space, and volume expansion. Each of these terms are defined and values are given for the Siamese soil samples.

- S28-01-02-X0 Cero, Magdaleno M., "Preliminary survey of lands and soils in relation to the cultivation and production of Virginia tobacco in Changwad Chiengrai, Thailand." Thai Science Bulletin, No. 4, Bangkok, Thailand (October 1939), pp 11-36.  
USGS  
S(635)  
T32

The soil types at 10 localities are discussed. The semidetailed descriptions are written in terms similar to the U. S. Department of Agriculture classification system.

- S29-01-02-X0 Cero, Magdaleno M., "Preparation of wet soil profiles with Thai adhesives." Thai Science Bulletin, vol 2, No. 344, Bangkok, Thailand (October 1940), pp 139-158.  
USGS  
S(635)  
T32

This article explains a method of taking monolith soil samples. The method has the advantage of being effective in extremely wet soils. A brief background of earlier methods used is presented. Six soil profiles are given.

- S30-02-02-X0 Charaljavanaphet, Jumchet, "Artesian conditions in Northeast Thailand." Report of Investigation No. 1, Thailand Royal Department of Mines, Bangkok, Thailand (1955), pp 37-39, map.  
USGS  
402(635)  
S12ri

The Khorat Plateau is underlain by Triassic sandstone and subordinate shale and limestone. This sequence forms a basin of interior drainage and artesian groundwater conditions are expected. It is also believed that overlying Jurassic shales will yield water.

The accompanying map, at a scale of 1:2,500,000, shows proposed test drilling patterns on north-south and east-west lines, sections across Nam Chee and Nam Mun, and railway test wells.

- S31-01-02-X0 Charles M. Upham Associates, Monthly Progress Reports. Bangkok, Thailand, 1959-1962, various pages.

- S32-01-02-X0 Charles M. Upham Associates, Special Report on Department of Highways USOM/T Project No. 93-31-159. Bangkok, Thailand, July 15, 1962.  
EIF  
318,511/  
Pt. 2



- S33-01-02-X0 Chu, L. T., Ma, Y. T., and Sung, T. C., et al., "The nomenclature of the various horizons of paddy soils." National Geological Survey of China Special Soils Publications, No. 4B, Pehpei, China (1938), pp. 85-91.

This article was unavailable for review but in An Annotated Bibliography of Rice Soils and Fertilizers, Commonwealth Bureau of Soil Science, Harpenden, England, and United Nations, Food and Agriculture Organization, Rome, Italy, August 1954, by Graham Vernon Jacks and M. Kathleen Milne, the following annotation is given.

"Describes the chief morphological aspects of paddy soils arising through the slow weathering of organic and inorganic soil materials and the descending flow of the soil solution under flood conditions."

- S34-01-03-X0 Claussen, C., "Anorthoklas - und Titanaugite-Einsprenglinge aus dem Theralit von Bo Ploi in Siam." Zeitschrift für Angewandte Mineralogie, vol 3, Berlin, Germany (1941), pp 224-265, illus.

This German article presents chemical composition, physical properties, and internal structure of anorthoclase and titanaugite from the sapphire-bearing theralite of Bo Ploi, Thailand.

- S35-01-03-X0 Coolbaugh, D. F., "The mining industry in Southeast Asia." Mining Engineering, vol 12, No. 10, New York N. Y. (October 1960), pp 1103-1106.  
LC  
TN1  
.A5258

The past, present, and future of the mining industry are discussed. Past production has been limited to tin, tungsten, and manganese with smaller quantities of other minerals, all being worked for fast gain. Present mineral production is meager when compared with population, but changes which are being made concerning power, labor, transportation, and financing should increase production. Several other minerals are known to exist in commercial quantities within the countries and are briefly summarized. The immediate future of this industry is bleak due to laws discouraging investment of foreign capital, but the long range picture looks much better. Several photographs are included which illustrate mining techniques.

- S36-01-03-X0 Crawford, Jr., "Observations made on a voyage from Bengal to Siam and Cochin-China." Geological Society of London, Transactions, Series 2, vol 1, London England (1924), pp 406-408.  
USGS  
G(520)  
q186

Except for mention of a few islands off the coast, very little of this is on Thailand.

- S37-01-02-XL Credner, Wilhelm, "Problems of geomorphology in Siam." Journal of Siam Society, vol 8, No. 1, Bangkok, Siam (1929), pp 25-40.

- S38-02-02-XGLHVC Credner, Wilhelm, Siam, das Land der Tai. J. Engelhorn's Nachf., Stuttgart, Germany, 1935, 422 pp, illus, maps.

- S39-01-02-X0 Credner, Wilhelm, Siam, das Land der Tai. (Translated by A. Mildner, of the Natural Resources Section, Supreme Commander of the Allied Powers, U. S. G. S., Military Geology Branch, Pacific Geological Survey, November 1949, 130 pp), J. Engelhorn's Nachf., Stuttgart, Germany, 1935, pp 9-65, 281-290.  
USGS  
590(635)  
186sE

This translation, although dealing mostly with Thailand, contains many descriptions applicable to the surrounding countries of Malaya, Burma, and Indochina. There are two parts. The first part contains a complete translation of part I on geological structure and surface

shape. Petrologic descriptions, although not quantitative, are presented for 10 rock types, and include distribution, thickness, texture, color, fossil content, etc. Following, the author considers tectonics, with discussions on intensity and age, 10 types of mineral deposits and their locations, and surface forms and their origin. The latter includes descriptions of elevations, aggradations and degradations, drainage, and origin.

The second part has a translation of Credner's text on tin ore mining as found in section V-D. Attention is devoted to mining methods, labor, production, and overall general geologic occurrence.

- S40-01-01-XGLVHC Credner, Wilhelm, Siam, das Land der Tai. (Translated by Miss Collmann, Army Map Service), 1959, 84 pp.
- S41-02-02-XH Daniel, Mann, Johnson, and Mendenhall, International, Ground Water Exploration of the Khorat Plateau, Final Report. Wat Areekul Press, Bangkok, Thailand, July 1961, 41 pp, illus, maps.
- S42-01-02-XH Daniel, Mann, Johnson, and Mendenhall, International, Ground Water Exploration Project. Monthly progress reports, Bangkok, Thailand, 1959-1961, various pages, illus, maps.
- S43-01-03-X0 DeNeve, George A., "Correlation of fusulinid rocks from Southern Sumatra, Bangka, and Borneo, with similar rocks from Malaya, Thailand, and Burma." Proceedings of 9th Pacific Science Congress, 1957, Part 12, Geology and Geophysics, Bangkok, Thailand (1961), p 249, abstract.

Four occurrences of Upper Paleozoic rocks containing fusulinids are described and these areas are correlated with rocks containing fusulinids in the Perlis area in Malaya, the Tahli area in Thailand, and the Shan States and Tenasserim Yomas in Burma.

- S44-01-02-XGLVHC Dobby, Ernest Henry George, Monsoon Asia. Quadrangle Books, Inc., Chicago, Ill., 1961, 381 pp, illus, maps.
- S45-01-02-XGLVHC Dobby, Ernest Henry George, Southeast Asia, 7th ed. University of London Press, Ltd., London, England, 1960, 415 pp, illus, maps.
- S46-02-05-X0 Dudal, R., "Les soils du Bassin du Mekong inferieur et leur utilization." (The soils of the lower Mekong Basin and their utilization.) Pedologie, vol 10, No. 1 (1960), pp 24-47, map.
- USDA  
56.8  
P34

Not available for review.

- S47-01-02-X0 Dudal, R., "Paddy Soils." International Rice Commission Newsletter, vol 7, No. 2, Bangkok, Thailand (1958), pp 19-27.
- USDA  
59.9  
In83N

This volume could not be located for review during this survey but in Annotated Bibliography on Tropical and Sub-Tropical Alluvial and Organic Soils, International Institute for Land Reclamation and Improvement, Wageningen, Netherlands, March 1961, 274 pp, by A. Kamphorst, the following annotation is given:

"The name paddy soils is used for soils on which irrigated rice is cultivated. Besides some common features, these soils may show great differences and they should

not be regarded as being one group. Genesis, morphology, and classification of paddy soils and soil-water-plant relations are discussed. The writer stresses the desirability of making precise reference to soil conditions in all attempts to improve production of rice. Attention is called to the importance of a unified classification and nomenclature of paddy soils. 21 references."

S48-01-02-X0

Dudal, R., and Moormann, F. R., Characteristics of Major Soils of South-East Asia and Considerations on Their Agricultural Potential. United Nations Food and Agriculture Organization, unpublished, Rome, Italy, April 1962, 62 pp.

This manuscript first bore the title Major Soils of South-East Asia. Its three sections cover an introduction to the region, description of the principal great soil groups, and a discussion of soils of special importance. The bases for classification are the USDA schemes of 1938 and 1949 and a new scheme currently under development. Approximately 90 percent of the region is covered by described types. The large section on soil groups touches on nomenclature, morphology, chemical characteristics, environmental conditions, occurrence, and land use and agricultural potential for the great soil groups present. The third section covers paddy soils and laterite. A list of 40 references concludes the report. The descriptions presented in this paper are detailed and well written and probably represent the best single source for descriptions of the Southeast Asian soils.

S49-01-02-X0

Dudal, R., and Moormann, F. R., "Major soils of South-East Asia." Miscellaneous Soil Reports of the Department of Agriculture, Department of Rice, and the Royal Irrigation Department, No. 8, Thailand Ministry of Agriculture, Bangkok, Thailand (October 1962), 56 pp.

This is identical to the author's Characteristics of Major Soils of South-East Asia and Considerations on Their Agricultural Potential, United Nations Food and Agriculture Organization, unpublished, Rome, Italy, April 1962, 62 pp. The paper was also presented at the Regional Geographic Conference held in April 1962 at Kuala Lumpur, Federation of Malaya, and a slightly modified version should have appeared in the Proceedings of the Conference, Journal of Tropical Geography, during 1963.

S50-01-02-X0

Emery, K. O., and Hiroshi, Niino, "Sediments of the Gulf of Thailand and adjacent continental shelf." Geological Society of America, Bulletin, vol 74, Baltimore, Md. (May 1963), pp 541-554, maps.

One hundred and eleven well-distributed sediment samples from the Gulf of Thailand suggest that in the gulf and on the inner third of the continental shelf the material is detrital and of modern origin. On the outer half of the shelf the sediment accumulated in the past during a time of lower sea level. The distribution of organic matter indicates upwelling along both sides of the gulf. Distribution of grain size and organic matter suggests that current flows into the gulf at the north side of its mouth and out at the south side. Geological data supported by drilling and magnetic measurements show that the river valley at the head of the gulf is a structural trough formed during the late Tertiary.

S51-01-02-XV

Eyre, S. R., Vegetation and Soils. Aldine Publishing Company, Chicago, Ill., 1963, 324 pp, illus, map.

S52-01-02-X0

Fermor, Lewis Leigh, "What is laterite." Geological Magazine, vol 48, London, England (1911), pp 454-462, 507-516, 559-566.

Literature on laterite and bauxite is reviewed in this article, and a summary of the characteristics of each is given. Laterite is essentially one or more of the oxides of iron, aluminum, titanium, and manganese, more or less hydrated. Physical and chemical characteristics of quartzose, lithomargic, pisolitic, oolitic, and detrital varieties are discussed.

Soils and Geology, Text

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S53-01-04-X0                      Foster, H. L., and Sumida, S., Catalogue of Translations of Japanese Geological Literature of Far Eastern Asia. U. S. Army Far East Forces, Intelligence Division, Tokyo, Japan, June 1954, 17 pp, unpublished.  
DIA/DL  
EIF  
232911

This catalogue covers translations in the interval 1950-53. Most of the literature is for areas other than Southeast Asia.

S54-01-02-XV                      Foxworthy, F. W., "Commercial timber trees of the Malay Peninsula." Malayan Forest Records, No. 3, Federated Malay States Forest Department, Singapore (1927), 195 pp, illus, map.  
LC  
SD97  
.M3A33

S55-01-02-X0                      Garrett, N. B., "Limestone in Siam." The Journal of the Siam Society, vol 18, Part 1, Bangkok, Thailand (April 1924), pp 63-64.  
LC  
DS561  
.T5

This is a report on a sample of limestone from the Kow Sak slope which was collected by W. Mahon Daly. Several fossils are identified and the age is determined to be Carboniferous as is the limestone of Moulmein. This account first appeared in the Bangkok Times Weekly Mail, August 7, 1900.

S56-01-04-X0                      The Geological Society of America, Bibliography and Index of Geology Exclusive of North America. Vol 1 (1934) - vol 26 (1961), New York, N. Y., 1934-1963, various pages.  
WES  
Z6031  
G4

This comprehensive bibliography is arranged by author and supplemented by a geographic index which is further arranged according to subjects. Maps published separately are filed according to geographic location in a separate section of the bibliography. During this survey all volumes were examined in the map and text portions under the geographic headings of Siam and Thailand.

S57-01-02-XGLVHC                      Graham, Walter Armstrong, Siam: A Handbook of Practical, Commercial and Political Information, 2d ed. Alexander Moring, Ltd., London, England, 1912, 637 pp, illus, map.

S58-01-05-X0                      Great Britain ISIS, "Cement capacity of plant at Bengsue (Outskirts of Bangkok)." (July 1942.)

Not available for review.

S59-01-05-X0                      Great Britain, Inter-Service Topographical Department, ISIS Report on the Kra Isthmus: Geology and Topography. BR 877 v/2, London, England, December 1944.

This report is said to contain regional descriptions of geology and soils with the soils being described in terms of geological rock types. Not available for review.

S60-01-05-X0                      Great Britain, Inter-Service Topographical Department, Siam: Geology and Topography. ISTD/Z/590, London, England, May 1, 1945.

Not available for review.

- S61-01-02-XI Great Britain RECCE Unit, Supreme Allied Command in Southeast Asia, Paknan-Cholburi-Chanthaburi Road, 28 Jan-2 Feb 1946, Bridge Report. 1946, 35 pp.
- S62-01-02-XI Gregory, John Walter, "The evolution of the river system of Southeastern Asia." Miscellaneous Geological Papers, vol 9, Glasgow University, Glasgow, Scotland (1925), pp 129-141, maps. Reprinted from The Scottish Geographical Magazine, vol 41, Edinburgh, Scotland (May 1925).
- S63-01-03-XI Gregory, John Walter, "Upper Triassic fossils from the Burma-Siamese frontier--the Thaungyin Trias and description of the corals." Geological Survey of India, Records, vol 63, Part 1, Calcutta, India (1930), pp 155-167, illus.

This article discusses paleontology of limestone beds on the Burma-Siam border. Although these beds have in the past been regarded as Devonian or Carboniferous, it is concluded that they are Upper Triassic.

- S64-01-03-XC Gubelin, Edward, "Differences between Burma and Siam rubies." Gems and Gemology, vol 3, No. 5, Los Angeles, Calif. (Spring 1940), pp 69-72, illus.

There are great differences in Burma and Siam rubies which can be easily determined by a competent analyst. The differences noted and explained are liquid inclusions, rutiles, refractive index, coloring elements, and dichroism.

- S65-01-02-XO Hall, Alfred Daniel, The Soil, 4th ed. John Murray, London, England, August 1931, 388 pp, illus.
- USDA  
56  
H14S  
Ed. 4

This book presents a general picture of the soil and is intended to aid students and farmers in obtaining a better understanding of the materials with which they work. The book considers such subjects as origin, mechanical and chemical analysis, textures, tillage and soil water movement, temperature, organic aspects, salt absorption, fertility, and soil types. As previously mentioned this is a general reference and no specific areas are mentioned.

- S66-01-02-XO Harrington, Joseph F., and Page, Benjamin M., Sources of Iron Ore in Asia. Natural Resources Division, Economic and Scientific Section, Supreme Commander for the Allied Powers, Report No. 154, Tokyo, Japan, 1942, 176 pp, maps.
- ANC  
HC461  
S59  
No. 154

This general discussion of iron ore deposits also presents a history of the industry, general information, and sources of data. The discussions are confined to the countries of Southeast Asia and India, Korea, Japan, the Philippines, Indonesia, and Australia. The brief section on Thailand points out that the search for iron ore is at a youthful stage. A single deposit of limonitic ore within an area approximately 1.5 by 0.5 kilometers is known near Songkhla-Hat Yai.

- S67-01-02-XC Keis, Arnold, and Hirsch, Hans, "A section of the mountain ranges of Northwestern Siam." Eclogae Geologicae Helvetiae, vol 32, No. 1, Basel, Switzerland (June 1939), pp 1-16, illus, map.

Soils and Geology. Text

The geology between Raheng and Mesod is summarized in this report. The autochthonous sediments consist of Precambrian (?) schists and gneisses, Carboniferous (?) sandstones and clays, Permocarboniferous limestones, Triassic and post-Triassic intrusives, Tertiary clastics and bituminous marls with sapropelite, and Quaternary gravel deposits. The dominant tectonic feature of these ranges is longitudinal stretching which probably took place during intense folding at the end of the Paleozoic.

S68-01-02-X0

USGS  
G(583)  
Up6

Högbom, Bertil, "Contributions to the geology and morphology of Siam." Bulletin of the Geological Institution of the University of Upsala, vol 12, Upsala, Sweden (1913-14), pp 65-128, illus, maps.

This report presents details of petrography, mineralogy, and petrology along with field observations for the routes of the Khorat railway and northern railway and for the regions around Me Pre, Chiang Kong, Chiang Mai, Paknam Po, and east of Outarridit. Geological sketch maps are included. The second section of the report discusses the geological map of Thailand at a scale of 1:7,500,000. Subsequent sections summarize the authors observations on petrography, mining, mineral deposits, and physiography of Thailand.

S69-01-02-XV

LC  
S590  
.C53

Imperial Bureau of Soil Science, Tropical Soils in Relation to Tropical Crops. Technical Communication No. 34, Harpenden, England, 1936, 60 pp.

This publication concisely describes the soil types which certain crops favor and the location within countries where the crops are grown. Rice is discussed for Siam.

S70-01-02-X0

USGS  
(640)  
qTn

India Geological Survey, Strategic Branch, The Characteristics of Dredged Mining Areas. Technical Note No. 49, Calcutta, India, 1945, 6 pp, illus.

This report relates to the alluvial areas of Tenasserim, Siam, and Malaya which have been extensively sorted for tin. Short descriptions of a dredge, an area worked by a dredge, the methods of stacking tailings, revegetation, adaptability for construction purposes, and water supply comprise the text. Three drawings illustrate various principles and methods of dredging. Only occasional reference is made to specific areas.

S71-01-02-X0

AMS/DL  
EIF  
00208

India Geological Survey, Strategic Branch, Materials of Construction Laterite. Technical Note No. 48, Calcutta, India, 1945, 6 pp.

This report discusses the modes of formation and occurrence of laterite, its properties, and uses. No specific locations are given.

S72-02-02-X0

DIA/DL  
EIF  
00201

India Geological Survey, Strategic Branch, Siam: Phuket Island. Technical Note No. 40, Calcutta, India, 1945, 9 pp, illus, maps.

This report describes military geology of the island as interpreted from aerial photographs and limited observations on the ground. With the exception of some hills of granite, quartzite, or slate, the island is composed of unconsolidated sediments and is fringed with coral reefs. Ten diagrams depicting the structure of various parts of the coast and two photo-geological maps are included. The first map, "Phuket Island photo-geological map," at an approximate scale of 1:100,000, covers the island. It shows the areal extent of beach sands, beach silts or silty sands, mangrove swamps, fore-shore rocks, alluvium, sand dunes or old beach ridges, older alluvium,

sandstone or shale series, intermittent lakes, granite, and coral reefs. Specific areas described in the text are noted. Towns and roads included and the map has 5-minute tick coordinates. The second map simply expands the scale to 1:25,000 and covers the extreme northern end of the island and immediate adjoining mainland.

S73-02-02-X0 India Geological Survey, Strategic Branch, Siam: Phuket Mainland. Technical Note No. 50, Calcutta, India, 1945, 14 pp, illus, map.  
DLA/DI  
EIF  
00210

This report describes the military geology of the mainland of the Kra Isthmus adjacent to Phuket Island, i.e. from the coast to 98°50'E longitude between latitudes 08°00'N and 8°40'N. The source of information was aerial photographs, supplemented by published material and limited ground reconnaissance. The information given should be regarded as an appreciation of the conditions likely to be encountered, rather than as a factual description based on ground observations. Annotated aerial photographs supplement the text. Information presented on a geological sketch map at a scale of 1:253,440 includes the distribution of alluvium, coral, mangrove swamps, sand dunes, limestone, sandstone and shale, and granite.

S74-01-02-X0 Itsikson, M. I., "The distribution of tin-ore deposits within folded zones." (Translated by William A. Kneiler from "Raspredeleniye olovorudnykh mestorozhdeniy v skladchatykh oblastiakh," Sovetskay Geologiya, No. 1, 1958, pp 86-113.) International Geological Review, vol 2, No. 3, American Geological Institute, Washington, D. C. (May 1960), pp 397-417.  
LC  
QE1  
.I7

This article deals with the mode of emplacement of tin deposits in relation to geotectonic and structural geological features. It is very detailed, considering theoretical aspects as well as distribution.

S75-01-04-X0 Jacks, Graham Vernon, and Milne, M. Kathleen, An Annotated Bibliography of Rice Soils and Fertilizers. Commonwealth Bureau of Soil Science, Harpenden, England, and United Nations Food and Agriculture Organization, Rome, Italy, August 1954, 180 pp.  
LC  
S674  
.R5J3

This bibliography contains 992 entries with a wide range of annotation lengths. It is divided into sections on soils, cultural operations, and fertilizers. The bibliography was compiled from the card index of the Commonwealth Bureau of Soil Science, and contains very detailed and specific information.

S76-01-02-X0 Jalichan, Nitipat, and Punnag, Din. A Report on the Geologic Reconnaissance of the Mineral Resources in Northeastern Thailand. Thailand Royal Department of Mines, Bangkok, Thailand, January 1954.

Not available for review.

S77-01-02-X0 Jones, William H., Pitfields of the World. Mining Publications, Ltd., London, England, 1954, 401 pp, illus, maps.  
LC  
TN470  
.J6

The first five chapters treat the tin industry in general terms of metal properties and uses, mining and smelting techniques, mineral economics, and the geology of tin deposits. The remainder of the book treats the deposits of the world under sections on Asia, Africa, Europe, America, and Australasia. The 75-page chapter on Asia contains maps, charts, graphs, etc., that expand on the text. References are included.

- S78-02-02-XO Kaewbaldhoo, Sangob, and Aranyakanon, Payome, "Tin and tungsten deposits of Thailand." Proceedings of 9th Pacific Science Congress, Part 12. Geology and Geophysics, Bangkok, Thailand, 1961, pp 400-404, map.

Most of the deposits are in southern Thailand, but a few occur in the western and north-western part of the country. The host rocks are commonly either folded sedimentary or metamorphic rocks intruded by granite batholiths. A map at a scale of 1:5,000,000 shows the extent of granites and the locations of tin and tungsten deposits.

- S79-01-02-XHC Kambhu, Xujati, "Characteristics of floods and prevention of damages in Thailand," E/CN.11/Flood/L.28, Proceedings of the Regional Technical Conference on Flood Control in Asia and the Far East, Flood Control Series No. 3, JT/ECAFE/SER.F 3, United Nations Economic Commission for Asia and the Far East, Bangkok, Thailand, 1952, pp 240-243.

- S80-01-04-XO Kasmphorst, A., Annotated Bibliography on Tropical and Sub-Tropical Alluvial and Organic Soils. (In two volumes), International Institute for Land Reclamation and Improvement, Wageningen, Netherlands, March 1961, 274 pp.

The major division of the subject is by the areas Asia, Africa, America, Australia, and Oceania. Asia is divided into the Middle East (India, Pakistan, and Ceylon), continental Southeast Asia, the Southeast Asiatic Archipelago, and East Asia. These parts are then subdivided according to the subject matter rather than geographic locations. The annotations vary in detail.

- S81-01-02-XHC Kheosiplard, Parj, "Irrigation in Siam." Reclamation Era, vol 33, Washington, D. C. (April 1947), p 95.

- S82-02-02-XO Klompé, Th. H. F., "Igneous and structural features of Thailand." Crust of the Pacific Basin, American Geophysical Union, Monograph 6, Washington, D. C., 1962, pp 122-134, maps.

Igneous rocks include the ultramafics in northern Thailand intruded during the Silurian - Lower Carboniferous, the Upper Triassic tin-free granites in eastern Thailand and post-Triassic tin-bearing granites in the west, and the effusives and dioritic intrusives of Upper Tertiary or Pleistocene age.

Structurally the country consists of the western and northern belt of folded Paleozoic rocks locally capped by Triassic deposits, the Khorat Plateau of nearly horizontal Mesozoic beds on a base of folded Paleozoic formations, and the Gulf of Thailand depression with a sediment-filled extension to the north. Three maps are included. Two of these are at scales smaller than 1:5,000,000 and illustrate the tectonic elements and structural scheme of Southeast Asia.

The third, "Geological sketch map of Thailand," is at an approximate scale of 1:8,950,000. It shows the areal extent of Triassic tin-free granite, Jurassic tin-bearing granite, Paleozoic with locally some Mesozoic and Tertiary sediments, Upper Tertiary intrusives or effusives, Khorat series, and alluvium. Locations are given for tin and tungsten deposits. Larger towns and major drainage are included.

- S81-01-02-XO Klompé, Th. H. F., "Igneous rocks and structural features of Thailand." Geologie en Mijnbouw, vol 41, The Hague, Netherlands (1962), pp 290-302.

This publication was not available for review.



- S84-01-02-X0 Kobayashi, Teiichi, "Geology of Thailand and her surroundings." Journal of Geography, vol. 67, no. 4, Tokyo, Japan (1958), pp 171-188, illus, map. (In Japanese with English abstract and bibliography.)

This discussion of the stratigraphy of the region also includes a review of the geologic history and orogenic crustal movements.

- S85-01-02-X0 Kobayashi, Teiichi, "Notes on the geologic history of Thailand and adjacent territories." Japanese Journal of Geology and Geography, vol 31, no. 2-4, Tokyo, Japan (1960), pp 129-148, illus, map.

This paper distinguishes three tectonic units and associated lines in the Indochina peninsula. In Thailand and Malaya the mountain chains and metamorphic zones exhibit a north-south sigmoidal pattern. The Paleozoic formations reflect essentially continuous deposition from the Upper Cambrian into the Triassic with little major crustal movements. The axis of orogenic activity during the Mesozoic shifted westward, culminating in a second phase in the Cretaceous which was less intense. Red beds of the Khorat Plateau and on both sides of the Burmese are not older than Cretaceous and probably contain some Lower Tertiary units. The peninsula was dissected during the Tertiary. Middle Tertiary and later crustal movements controlled the development of the present relief.

- S86-01-05-X0 Kobayashi, Teiichi, Pre-Cambrian Geology of Eastern Asia. (Unpublished) March 23, 1950, 21 pp.

Not available for review.

- S87-01-02-X0 Krishnan, Maharajapu Sitaram, "Iron ore deposits of the Middle East and of Asia and the Far East." Survey of World Iron Ore Resources Occurrence, Appraisal and Use, United Nations Department of Economic and Social Affairs, New York, N. Y., E/2655/ST/ECA/27 (18 October 1954), pp 265-334, maps.
- LC  
JX1977  
.A2  
E/2646-2660

This report covers most of Asia, except the USSR and Laos. Detail is lacking because a maximum of only two pages is devoted to each country. The book contains, often by coordinates, the grade, reserves, and mode of occurrence of the major deposits. Small-scale maps give general locations.

- S88-01-02-X0 Ladell, W. R. S., "Paddy experiments in Siam and some Siamese paddy soils." Proceedings of World Grain Exhibition and Conference, vol 2 (1933), pp 118-121.
- USDA  
59-9489  
(3401)

Rice for export is grown mainly on the plains and deltas of large rivers. Coastal soils are black, heavy alluvia with characteristics of gley as a consequence of annual flooding. In the plains, irrigation supplements the light rainfall. Physical and chemical features are reviewed. Coastal soils yield rice at an average of 2700 lb/acre and inland soils give 4000 lb/acre.

- S89-01-02-X0 Ladell, W. R. S., "The use of fertilizers in the cultivation of paddy." Technical and Scientific Supplement to the Record, No. 6, Siam Ministry of Commerce and Communications, Bangkok, Siam (April 1930), 17 pp.
- USDA  
269  
S114A

The author states that the paddy soil in Siam, as in Burma, has reached a relatively stable low level of production. The fertility is balanced by plant food removal and natural breakdown of the soil. The present agricultural practices need for fertilization, indigenous and artificial fertilizers, and experimental results, are discussed. An appendix gives some experimental results, soil analysis, and test comparisons for selected plots within the country.

- S90-01-02-XH LaMoreaux, Philip E., "General outline of geology and occurrence of  
LC ground water in the Korat Plateau, Thailand." Journal of Alabama Academy  
Q11 of Science, vol 27, Montevallo, Ala. (1955), pp 20-21, map.  
.A37

The Khorat Plateau is composed of Triassic, Jurassic, and younger strata which have been warped into a large shallow basin. Coarse-grained jointed sandstones within the sequence which are overlain and underlain by less permeable beds probably constitute excellent aquifers. Groundwater supplies are also available at shallow depths from Recent alluvial deposits.

- S91-02-02-XH LaMoreaux, Philip E., and others, Reconnaissance of the Geology and  
Groundwater of the Khorat Plateau, Thailand. U. S. Geological Survey  
Water Supply Paper No. 1429, Washington, D. C., 1958, 62 pp, illus, maps.

This report was written in cooperation with numerous Thai agencies and was under the auspices of the U. S. Operations Mission to Thailand. It is the combined effort of seven men with fieldwork done from 27 October to 20 November 1954, and is divided into four sections: introduction, geography, geology, and groundwater. Each section is profusely illustrated with an assortment of maps, graphs, photographs, tables, and cross sections.

The first section describes the plateau as being a basin-shaped area of Paleozoic and Mesozoic sediments tilted slightly to the southeast. An accompanying map locates the study area in Thailand with the Mae Nam Khong (Mekong) on the north and east, the Phanom Dang Raek Escarpment on the south, and the Thu Khao and Phetchabun on the west.

The section on geography gives a brief review of available maps by Thai and U. S. agencies, a quick review of surface features, and introductory climatic data.

The geology section has more detail. Topics discussed are geologic history, structure, and six rock units: Kanchanaburi series, Ratturi limestone, Khorat series, Jurassic and Cretaceous beds, basalt and alluvial deposits. Fairly complete lithologic descriptions, tables, and cross sections expand these descriptions.

A variety of subjects are included under hydrology: source and occurrence, water table, artesian conditions recharge, recovery, of groundwater, quality of water, and local supplies. Accompanying small-scale maps show outcrops of Triassic rocks and isohyets during the months of January, April, July, and October.

Four map inclusions conclude the report. The "Map of Khorat Plateau showing location of wells," at a scale of 1:100,000, was modified from the map by the Thailand Royal Irrigation Department for the North Eastern Project. The map shows the location of wells considered in this study, various cultural features, and drainage. The "Reconnaissance geologic map of the Khorat Plateau," at a scale of 1:2,000,000, was modified from the map prepared by M. Chalichan and D. Bunnag. It shows five lithologic units, strikes and dips, anticlines and synclines, and cultural features. The third inclusion is the "Diagrammatic sketch of the physiographic provinces of Thailand" at a scale of 1:3,300,000. This identical map is also found in Geologic Reconnaissance of the Mineral Deposits of Thailand by Brown, et al. Most of the detail consists of topography by hachures and drainage; very few cultural features are located. A final inclusion shows well locations of eight municipalities.

- S92-01-01-XH Lauer, Bruno, "Mineral resources of southeast Asia." The Journal of  
LC Geography, vol 42, Nos. 7 and 8, Chicago, Ill. (October and November  
Q1 1948), pp 241-246 and 251-257.  
.A57

The author mentions history, present development, and the future of the mineral industry. Although the article covers individual countries, the information is not specific.

- S93-01-02-XC Lee, Wallace : "Outline of the geology of Asia with reference to  
LC petroleum." American Association of Petroleum Geologists, Bulletin,  
Q1 vol 11, No. 4, Tulsa, Okla. (1927), p. 411, maps.  
6(105)  
Ac1

The paper surveys the geology of the three geological provinces: the Ciba, Phrae basin, the Khorat Plateau, and the Malay Peninsula. Of some interest is the note that the Khorat Plateau

was peneplaned by the Mekong River previous to elevation to its present position. Most of the mountain masses are composed of metamorphic Paleozoic rocks. The Khorat Plateau is reddish sandstone of Triassic age 4000 ft thick. General locations of Quaternary sediments and igneous rocks are mentioned. Geologic provinces are shown in a small-scale map.

S94-02-02-X0      Lee, Wallace M., Reconnaissance Geological Report of the Districts of Payap and Maharastra, Northern Siam. Thailand Department of State Railways, Bangkok, Thailand, 1923, 16 pp, map.

USGS  
(635)  
g151

This report summarizes geological observations during a reconnaissance in search of oil and coal. Observations are limited by deep weathering and by the fact that roads are largely confined to the alluvial valleys and access to mountain ridges is difficult. Lithology of the rocks is discussed in a general manner. A well near Muang Fang and several tar seeps are described. The accompanying geologic map, at a scale of 1:400,000, shows the areal extent of sandstone, limestone, shale, conglomerate, and granite with several boundaries being inferred. Spot information is given for formations, strikes and dips, synclinal and anticlinal axes, rivers, basin deposits, roads, railways, and towns.

S95-02-02-X0      Lee, Wallace M., Reconnaissance Geological Report of the Provinces of Phuket, Surashtadhami, Nakon Sridhamaraj, and Patani in Siamese Malaya. Thailand Department of State Railways, Bangkok, Thailand, August 9, 1923, 14 pp, map.

USGS  
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q152

This generalized report is based on observations along roads and trails. As much as 33,500 ft of Paleozoic sedimentary rocks are exposed in the region. These beds are commonly intruded by granite and metamorphosed to schists, marble, etc. Tertiary rocks are limited to isolated basins. These and subsequent Quaternary accumulations are principally clastics. Structural, historical, and economic geology are briefly discussed.

The accompanying geologic map, at a scale of 1:500,000, shows the areal extent of the Tertiary; Permocarboniferous limestone; Paleozoic slate, sandstone, or quartzite; lower dark limestone; and granite along the routes traversed. Spot information is given for formations, strikes and dips, synclinal and anticlinal axes, faults, and inferred formation boundaries. Province boundaries, drainage, roads, and towns are included.

S96-01-05-X0      Lee, Wallace M., Reconnaissance Geological Report of the Korat Region, Provinces of Nakorn Rajasima, Udon, Roi Et, and Udon, Siam. Mimeographic reproduction, Siam Department of State Railways, Bangkok, Siam, 1923.

Not available for review.

S97-01-02-XL      Louis, Henry, "The ruby and sapphire deposits of Moung Klung, Siam." The Mineralogical Magazine and Journal of the Mineralogical Society, vol 10, No. 48, London, England (July 1892), pp 267-272.

The area covered by this report is approximately that portion of Southeastern Thailand enclosed by a triangle with Chanthaburi, Ban Khlong Khwang Nok, and the mouth of Khlong Welu as extremities. The report contains good qualitative terrain descriptions, incomplete chemical analysis, descriptions of mining methods employed, and the mode of gem occurrences.

S98-01-02-XL      Louis, Herbert, "Beobachtungen uber die Inselberge bei Hua-Hin am Golf von Siam." (Observations on Inselbergs near Hua-Hin at the Gulf of Siam.)

AMS  
G1  
E66      Erdkunde, vol 13, No. 4, Bonn, Germany (December 1959), pp 314-319. (In German with English summary.)

The paper describes granular disintegration and rainwash of granitic terrain in southwest Thailand. Characteristic slopes and landforms can be distinguished from somewhat similar features developed in arid climates. Emphasis is on geomorphic processes.

S92-01-03-XO Luang, Samarnwanakit, "Good soil and the nation's decline, poor soil and the nation's progress." Science Thailand, vol 13, No. 8, Bangkok, Thailand (1959), p 6.

Not available for review.

S100-01-02-XGLVHC McCarthy, James, Surveying and Exploring in Siam. J. Murray, London, England, 1900, 215 pp, maps, charts.

S101-01-02-XO Middelburg, H. A., "Tentative scheme for classification of tropical and subtropical soils." Fourth International Congress of Soil Science Transactions, vol 4, Hoitsema Brothers, Groningen, Netherlands (1950), pp 139-147 (includes discussion).  
LC  
S590  
.I6  
1950

The author divides the 18 great soil groups into three orders: zonal with humid and arid region suborders; intrazonal with calcimorphic, halomorphie, and hydromorphic suborders; and azonal. Each group has a list of specific examples or subtypes together with the country or province in which it is found. The discussion of the scheme is general in nature and stresses the need for better communication among the soil scientists of the world.

S102-02-02-XO Montrakun, Sarot, "Soil survey of the Lam Pao area - Kalasin Province." Soils of Thailand, Report 2, Department of Rice in cooperation with Department of Agriculture, Royal Irrigation Department, and United States Operation Mission, Bangkok, Thailand, 1961.

This report has been superseded by Poomvises, Vira, Moormann, F. R., and Montrakun, Sarot, "Detailed reconnaissance soil survey of the Lam Pao irrigation project (Kalasin Province)," Miscellaneous Soil Reports of the Royal Irrigation Department, Department of Agriculture, and the Department of Rice, No. 12, Thailand Ministry of Agriculture, Bangkok, Thailand, February 1963, 29 pp, illus, maps, and was not examined in this survey. However, in the U. S. Army Engineer Waterways Experiment Station, CE, "Results of survey of existing data and literature," Environmental Factors Affecting Ground Mobility in Thailand, Preliminary Survey, Appendix A, Technical Report No. 5-625, Vicksburg, Miss., May 1963, 8 pp, the following annotation is given:

"This report covers a small area along the west side of the Lam Pao River immediately north of Kalasin in the middle of the Khorat Plateau. The soils map, even though on a large scale, is printed on a poor base map. The report includes some detailed soil profile descriptions and some laboratory data, but these do not include grain-size data."

S103-02-02-XO Montrakun, Sarot, "Soil survey of the Lam Pra Plerng Project - Nakorn Rajesima Province." Soils of Thailand, Report 1, Department of Rice in cooperation with the Department of Agriculture, Royal Irrigation Department, and the United States Operation Mission, Bangkok, Thailand, 1961.

This report was not examined in this survey. However, in the U. S. Army Engineer Waterways Experiment Station, CE, "Results of survey of existing data and literature," Environmental Factors Affecting Ground Mobility in Thailand, Preliminary Survey, Appendix A, Technical Report No. 5-625, Vicksburg, Miss., May 1963, 8 pp, the following annotation is given:

"This report describes three tracts along the Mae Nam Mun River south of Khorat, totaling about 48 square miles, and the soils therein. Soils maps on a scale of about 1:50,000 are included, but the base maps for the soil delineations are poor, and the soil mapping is rather general for the scale. This report is of limited value to mobility research."

- S104-02-02-X0 Montrakun, Sarot, "Soil survey of the Mae Taeng Project - Chiangmai Province." Soils of Thailand, Report 3, Department of Rice in cooperation with the Department of Agriculture, Royal Irrigation Department, and United States Operation Mission, Bangkok, Thailand, 1961.

This report has been superseded by Poomvises, Vira, Moormann, F. R., Ratanaprayura, Chalermthep, and Montrakun, Sarot, "Detailed reconnaissance soil survey of the Mae Taeng irrigation project (Chiang Mai Province)," Miscellaneous Soil Reports of the Royal Irrigation Department, Department of Agriculture and the Department of Rice, No. 14, Thailand Ministry of National Development, Bangkok, Thailand, April 1963, 18 pp, illus, maps, and was not examined in this survey. However, in the U. S. Army Engineer Waterways Experiment Station, CE, "Results of survey of existing data and literature," Environmental Factors Affecting Ground Mobility in Thailand, Preliminary Survey, Appendix A, Technical Report No. 5-625, Vicksburg, Miss., May 1963, 8 pp, the following annotation is given:

"This report covers approximately the western half of the Chiang Mai Plain. The soils map, on a scale of about 1:200,000, is printed on a poor base map. Only four map units are shown, and the range of soil characteristics included in a mapping category is greater than the legend and supporting text indicate. Small differences in soil texture and drainage, which are important to trafficability studies, are not shown. Although the report is quite useful as a source of general information, it lacks the precision necessary for delineating soil trafficability classes."

- S105-02-02-X0 Moormann, F. R., "Report on the preliminary soil survey of the Mae Klong irrigation project area." Miscellaneous Soil Reports of the Royal Irrigation Department, Department of Agriculture, and the Department of Rice, No. 1, Thailand Ministry of Agriculture, Bangkok, Thailand (May 1962), 27 pp, illus, maps.

This report is the results of fieldwork performed in January, February, and March 1962, which was supplemented by photogrammetric analysis. It covers approximately 1800 square miles in the southwestern part of the Bangkok Plain, with Ban Pong being located in the approximate geographic center. Three major sections are presented. The first section (landforms) describes hills, old and semirecent terraces, and recent alluvial plains. The second section describes the soils found in the landform types. A total of 18 soils are described according to type, texture, color, pH, position within the great soil groups, and drainage characteristics. The third section describes the area in terms of hydrologic characteristics and classifies the land as to irrigability and possible future uses. In addition to a small-scale location map and cross sections, two maps are included. The "Mae Klong project map showing landforms and associations" and "Mae Klong project map showing irrigation zones" are at a scale of 1:250,000 and cover the approximate geographic area of 13°10'N to 14°28'N and 99°29'E to 100°18'E. The first map outlines hills and mountains (the slope complex), old terraces (predominantly Khorat series), old terraces (predominantly Roi Et series), semirecent terrace (the Kamphaengsaen and Nakorn Pathom series), riverine alluvium (Tha Muang and Rajaburi series), marine alluvium (predominantly Sang Phae, Bang Len, and Rangsit series), transitional alluvium, and saline soils. The second shows five zones classified according to present land classification or use and projected use after completion of the project. Major towns and drainage, railways, and roads are shown in each map. Ten-minute ticks occur along the margin of the map.

- S106-01-02-X0 Moormann, F. R., Anthony, K. R. M., and Panichapong, Samarn, "Note on the soils and land use in the hills of Tak Province." Soil Survey Reports of the Land Development Department, No. 20, Thailand Ministry of National Development, Bangkok, Thailand (March 1964), 14 pp, map.

This report presents the results of a survey of the area between Tak and Mae Sot with emphasis on the Doi Musser Self Help Settlement Center. The survey was conducted on agricultural practices and methods of improvement. Limited discussions are included on climate and soils. The more detailed portion of the report deals with crops grown, yield, use, etc. The soil descriptions, while general, are the most detailed information presently available for this area. A small-scale location map is included.

- S107-01-02-X0 Moormann, F. R., Montrakun, Sarot, and Panichapong, Samarn, "A key to the soil survey of North-Eastern Thailand." Miscellaneous Soil Reports of the Department of Rice, Department of Agriculture, and the Royal Irrigation Department, No. 9, Thailand Ministry of Agriculture, Bangkok, Thailand (December 1962), 32 pp, illus.

This report is a revision of the classification system as originally set forth by R. L. Pendleton and later modified by Sarot Montrakun. The previous legends are reviewed and a brief description of landforms and parent materials is given. The soils are broadly grouped into lowland, low upland, upland, and hill or mountain categories. Eighteen soils are described according to type, texture, color, pH, great soil group position, drainage characteristics, and agricultural use. Several cross sections and diagrams are utilized to expand the text. A chart presents these soils data in tabulated form, giving parent material, physiographic position, and diagnostic characteristics. This report is necessary for those engaged in soil work within the region, because the terminology used in all reports from the area is explained.

- S108-02-02-X0 Montrakun, Sarot, and Moormann, F. R., "Report on the soil survey of the Huai Si Thon irrigation project." Miscellaneous Soil Reports of the Department of Rice, Department of Agriculture, and the Royal Irrigation Department, No. 5, Thailand Ministry of Agriculture, Bangkok, Thailand (June 1962), 19 pp, illus, maps.

This report is a revision of an unpublished report by the senior author, which was issued in 1961. The revisions were accomplished by field surveys conducted in June 1962 and by photogrammetric analysis. It covers a small area immediately north of Kalasin which is located in the central part of the Khorat Plateau. The report is presented in sections concerned with a general description of the area, soils, land use, land classification, and conclusions and recommendations. The area is described according to topography, physiography, and hydrography. The soils in the area are divided into upland and lowland areas and seven series are described according to type, texture, color, pH, drainage, and agricultural value and potential. The land use and classification sections are brief and discuss present use and potential as an irrigated area. The authors conclude that the area is not favorable to irrigation but should be used as an experimental station due to it being representative of the soils of the Khorat Plateau. In addition to a small-scale location map and cross section, three large-scale maps are included. The "Huai Si Thon project semi-detailed soil map," "Huai Si Thon project land use map," and "Huai Si Thon project map showing irrigation - land classes," at a scale of 1:19,350 + 150, cover a small area east of the Lam Pao and immediately north and northeast of Kalasin. The first map shows the areal extent of the Phi Mai; Kalasin; Lam Pao River complex composed of the Chieng Mai, Phi Mai, and Kalasin; Roi Et; Ubon; Khorat; and associations of the Khorat and Yasothon series. The second map shows the areal extent of rice land; scattered rice fields, shrubs, and marshes; upland crops in shifting cultivation; garden crops and urban areas; forests and shrubs; and marsh. The third map shows irrigation classes of excellent, good with slight limitations, moderate with moderate to severe limitations, and not suited for upland crops and rice. The limitations are imposed because of soil, topography, drainage, or exposure of soil classes to periodical deep flooding. The maps also show roads, drainage, and towns, but have no coordinates.

- S109-01-02-X0 "A new tin producer in Siam." Engineering and Mining Journal, vol 137, No. 1, New York, N. Y. (1936), p 42, illus.

The Pinyok mine, located in southern Siam, has estimated reserves of 1,500,000 tons of 3 percent ore. The deposit is on a granite-limestone contact and is about 1200 ft long and 400 ft wide. Pilot operations began in 1935 and were to remain until a larger plant could be built.

- S110-01-02-XGLVHC Nuttonson, M. Y., The Physical Environment and Agriculture of Thailand. American Institute of Crop Ecology, Washington, D. C., 1963, 256 pp.

- S111-01-02-X0 OIwa, Yasushi; Nordquist, Carl G.; and Lentz, Oscar H., "The mineral industries of Japan and Southeast Asia." Quarterly of the Colorado School of Mines, vol 56, No. 4, Golden, Colo. (October 1961), 416 pp.
- USGS  
TN210  
C6B  
V56  
No. 4  
pt. 1-2

This report concerns the development, potential, production, reserves, trade, and major deposits of the mineral resources for most of the Asian countries. In Thailand iron, manganese, tungsten, copper, lead-zinc, and aluminum are discussed. Although a multitude of supporting statistics and other data are available, no quantitative terrain data is included.

- S112-01-02-XGLVHC Pacific Science Congress, 9th, Bangkok, Thailand, Thailand, Past and Present. Bangkok, Thailand, 1957, 193 pp, map.

- S113-02-02-X0 Panichapong, Samarn, Moormann, F. R., and Soil Survey Staff, "Report on the soil survey of 10 villages in Changwat Ubon." Miscellaneous Soil Reports of the Department of Agriculture, Department of Rice, and the Royal Irrigation Department, No. 7, Thailand Ministry of Agriculture, Bangkok, Thailand (August 1962), 20 pp, illus, maps.

This report gives the results of field surveys conducted in May 1962 and photogrammetric analysis in June-July 1962. The villages, Dong Bang, Nam Plik, Na Yom, Nong Lak, Nong Khun, Sang Ming, Nong Tae, Hua Rua, Kut Peng, and Si Khai, are all located in the proximity of Ubon. Items briefly discussed include climate, topography, hydrology, and vegetation. The soils are divided into lowlands, low uplands, and uplands. Nine soil series are described according to type, texture, color, pH, drainage characteristics, and agricultural value and potential, with emphasis on the latter. Following a brief discussion of soil and land conditions in the villages, the authors decide that the soils examined are representative of the Khorat Plateau, and crop diversification and fertilization need to be stressed as much as irrigation needs. In addition to small-scale location maps and rainfall data, one map at a scale of 1:20,000 is included. This map, "Soils maps of villages and surroundings of the nutrition project (Ubon Province)," covers a small area in the vicinity of each village. Soils mapped are Pimai, Kalasin, complex of diverse alluvial soil, Roi Et, Udon, Ubon, Ponpisi, Khorat and Nam Pong series. The maps also show roads, railroads, villages, drainage, and cultural features. No coordinates are shown.

- S114-01-02-XV Pendleton, Robert Larimore, "The agriculture of Siam." Foreign Agriculture, vol 10, No. 11, Washington, D. C. (November 1946), pp 154-167, map.

A generalized picture of Thailand's agriculture is presented with brief descriptions of physical features, climate, and soils and detailed discussions of the rice industry. Soils are described as being heavy, dark clays in the Bangkok plain, silty to clayey in the northern valleys, fine sandy loams in the Khorat Plateau, deep-red friable clays in southeast Thailand, and sandy or sandy clay loams in peninsular Thailand. Geographic location and production methods are given for rice, fibers, tobacco, sugar, soybeans, tropical fruit, vegetables, rubber, livestock, and fish. Concluding the article is a discussion of methods of improvement for agricultural products. Rice production is stressed throughout the article.

- S115-01-05-X0 Pendleton, Robert Larimore, Detailed Study of Thailand Soils. NIAR-69-46, Bangkok, Thailand, August 15, 1946.

Not available for review.

- S116-01-03-X0 Pendleton, Robert Larimore, "Fertilizers and soil fertility in Thailand." International Rice Commission Newsletter, No. 1, Bangkok, Thailand (February 25, 1952), pp 3-5.
- USDA  
59.9  
IN83N

This paper briefly sketches the history of use of fertilizers and discusses soil fertility and trade problems involved. Previous to World War II, ammonium sulfate, hog manure, and duck manure were used on truck farms and a little bat guano from caves was used on paddies along the Peninsula. The use of fertilizers has increased with the coming of the tobacco industry. Preliminary results of a test program initiated in 1950 indicate that many paddy soils show a minimum of phosphorous.

S117-01-02-X0      Pendleton, Robert Larimore, "Generalized key to the soils of Siam."  
USDA      Journal of Siam Society, Natural History Bulletin, vol 17, Bangkok,  
513      Thailand (December 1958), pp 1-9.  
B222

Chemical and physical characteristics determine that the soils of Thailand are relatively mediocre in plant producing capacity. Methods for improving soils for agriculture are briefly reviewed. Twenty-one soil groups in the three terrain categories, i.e. lowland, gently sloping to flat, and upland, are distinguished and identified according to usage.

S118-01-02-X0      Pendleton, Robert Larimore, "Importance of termites in modifying certain  
Thailand soils." Journal of American Society of Agronomy, vol 34, No. 4,  
Washington, D. C. (April 1942), pp 340-344, illus.

This article describes termite mounds and their soil characteristics. The author relates how the farmer makes use of the mounds in regions of very poor, acid, sandy lateritic soils and also in paddies. The higher fertility of the mounds is probably due to higher plant nutrient content, higher pH, better moisture relation, and because the upper portion is above the water in paddy regions. A high  $\text{CaCO}_3$  content is unexplained. Physical and chemical differences in termite mounds are noted and explained.

S119-01-02-X0      Pendleton, Robert Larimore, "Land use in Northeastern Thailand." Geo-  
ONI      graphical Review, vol 33, No. 1, New York, N. Y. (January 1943), pp 15-  
S-6201-020D      41, maps.  
USGS  
S(221)  
Am372

This discussion of the Khorat Plateau emphasizes soils but also touches on such topics as climate and geologic stratigraphy as they bear on soil formation. Soils are almost entirely sandy but a denser, heavier subsoil commonly results from downward migration of finer particles. The region suffers from meager erosion. North of the Lam Moon River, near the center of the Plateau, the top soil is loamy sand to silt about 1/3 meter in depth. Between it and the sandy clay subsoil is a zone of iron-rich concretions. During the rainy season this region is flooded by water about 1/2 meter deep.

S120-01-02-X0      Pendleton, Robert Larimore, "Laterite and its structural uses in Thailand  
AMS      and Cambodia." Geographical Review, vol 31, No. 2, New York, N. Y. (April  
G1      1941), pp 177-202, illus, maps.  
G35

This article traces the history of the term laterite since Buchanan first observed and described it 130 years ago in India. Laterite's characteristic of consolidating from a soft natural state to a very hard material has made it valuable for building and construction, and it has been used for this purpose for over a thousand years. Methods of quarrying laterite are discussed in detail.

S121-01-02-X0      Pendleton, Robert Larimore, "Laterite in Siam and Cambodia." Proceedings  
USGS      of 6th Pacific Science Congress, vol 4, Berkeley, Calif. (1940),  
031      pp 969-971.  
P35p



Laterite is a somewhat compact, quarryable, concretionary, or accretionary deposit which has developed in the deeper horizons of the soils. Limonite and similar iron compounds are believed to be the significant minerals which give laterite its peculiar characteristics. The principal requirement for the formation of laterite is a relatively permanent and not very deep groundwater level. In a peneplain that is under stable conditions, this condition is most easily met, and for a very long time it has prevailed over considerable parts of central and eastern Thailand and Cambodia.

SI22-01-03-XO

USDA  
513  
B22

Pendleton, Robert Larimore, "Laterite, or sila laeng, a peculiar soil formation." Thai Science Bulletin, vol 3, No. 3-4, Bangkok, Thailand (December 1941), pp 61-77, illus.

Laterite is a horizon of iron-oxide cemented material which has developed in equatorial soils which have long been exposed to weathering processes. Laterite develops only in areas of peneplanation where an oscillating water table promotes oxidation at shallow depth, and the term "laterite" should be restricted to this material. Furthermore, the development of laterite requires that no additions of soil by winds or water take place. "Groundwater laterite" is real laterite, in the strict sense of the term, for all laterite is formed through the agency of groundwater. Much of the Khorat Plateau has a laterite layer and the low fertility of soils there is partly a consequence of the leaching process that accompanies laterite development.

SI23-01-02-XO

USDA  
22.5  
SI1T

Pendleton, Robert Larimore, Notes on Soils and Land Utilization in South-eastern Siam; with some Comments upon the Improvement of the Agriculture of this Area. Thailand Department of Agriculture, Technical Bulletin No. 4, Bangkok, Thailand, 1950, 123 pp, illus, map.

This report describes terrain and soils for traverses through southeastern Thailand between the coast and Trat. Soil profiles were taken at irregular intervals and classified according to the U. S. Department of Agriculture system. Brief discussions of climate, general geology, vegetation, drainage, landscape, soil characteristics, and weathering processes for the whole area are included. Land utilization and agricultural problems within the area are presented.

SI24-02-02-XO

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355,930

Pendleton, Robert Larimore, Report to Accompany the Provisional Map of the Soils and Surface Rocks of the Kingdom of Siam. Bangkok, Thailand, 1953, 114 pp, map.

This report is a source of general information about the soils and land use in Thailand. The first part of the report is an annotated legend to accompany the soil map. Each of 21 soil units, somewhat similar to the great soil groups of U. S. terminology, is described in detail. Discussions on climate (including temperature, winds, rainfall regime, and distribution), parent rocks, vegetation, and regional drainage follow, and the final part of the report describes soils in seven distinct portions of the country. An annotated bibliography is included. The accompanying map first appeared in 1949 as a publication of the Thailand Cadastral Survey Office.

SI25-01-02-XO

USDA  
22.5  
SI1T

Pendleton, Robert Larimore, Soils and Land Use in Peninsular Siam. Thailand Department of Agriculture and Fisheries. Technical Bulletin No. 3, Bangkok, Thailand, 1949, 178 pp, illus, map.

This is a detailed soil study of the provinces of Pattani, Yala, Narathiwat, Satul, Trang, Phuket, Pangnga, Ranong, and Champorn. General descriptions of the terrain (topography, native vegetation, drainage, etc.) and somewhat more detailed data on specific routes are included. Soil samples taken along these routes are classified according to the USDA system. Thirty-five photographs supplement the text.

SI26-01-02-XO      Pendleton, Robert Larimore, "Soils of Thailand." Journal of the Thailand Research Society Natural History Supplement, vol 12, No. 2, Bangkok, Thailand (December 1940), pp 235-260, illus.  
DA  
56.25  
P37

This article presents a rather detailed discussion of Thailand soil surveys, soil character, parent material, geology, and geography. The soils of the country are described as to type, texture, fertility, and use for the geographic areas of the Bangkok Plain, northern mountains and valleys, northern plain, Khorat Plateau, southeastern region, and southern Thailand. Several good photographs illustrate the text.

SI27-01-02-XV      Pendleton, Robert Larimore, "Soils of Thailand." Thai Pictorial, vol 1, No. 2, Bangkok, Thailand (August 1941), pp 39-50.  
LC  
GPRR

This is a rather generalized article which discusses soils of the Central Plain, Bangsit Region, Northern Thailand, and Northeastern Thailand. Typical soil types, type cultivation practiced, and crops grown are given for each region. The article is concluded by brief descriptions of laterite, soil burning for pepper cultivation, and fertilizers. Several excellent photographs are included.

SI28-01-02-XO      Pendleton, Robert Larimore, "Some results of termite activity in Thailand soils." Thai Science Bulletin, vol 3, No. 2, Bangkok, Thailand (April 1941), pp 29-53, illus, map.  
USGS  
S(635)  
T32

Termite mounds occurring rather uniformly at one per acre spacing have noticeably richer soils than the surrounding fields. Chemical analysis of the mound soil is discussed. They are commonly used to grow cotton, beans, mulberry, etc. Calcium carbonate concretions found within the mounds are as yet unexplained. Chemical analyses of the soil are included.

SI29-01-02-XGLVHC      Pendleton, Robert Larimore, Thailand, Aspects of Landscape and Life. Duell, Sloan, and Pearce, New York, N. Y., 1962, 331 pp, illus, maps.

SI30-01-05-XO      Pendleton, Robert Larimore, Training for Agricultural Research in Humid Tropical Asia. Southeast Asia Institute, Educational Memorandum, New York, N. Y., 1947. (?)

Not available for review.

SI31-01-05-XO      Pendleton, Robert Larimore, and Montrakun, S., Soils of Thailand. Thai Watana Panich, Bangkok, Thailand, 1957, 7 pp.

Not available for review.

SI32-02-02-XO      Pendleton, Robert Larimore, and Montrakun, Serot, The Soils of Thailand. Technical Bulletin, Thailand Department of Rice, Ministry of Agriculture, Bangkok, Thailand, 1960, 22 pp, map. Reprinted from the Proceedings of the Ninth Pacific Science Congress, vol 18, "Soil and land classification," 1957, printing date, 1960, pp 12-33, separate map.  
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The junior author presents a condensed modified and rearranged version of Pendleton's earlier works. Twenty-one soil units are described according to distribution, physical characteristics, thickness, chemistry, and associated vegetation. No specific soil samples are mentioned. The accompanying map, at an approximate scale of 1:3,850,000, is identical to Pendleton's earlier

map with the exception of minor detail variations. It has no internal coordinates but has 1-deg tick marks.

SI33-01-02-X0 Pendleton, Robert Larimore, and Sharasuvana, Sangar, "Analyses and profile notes of some laterite soils and soils with iron concretions of USGS Thailand." Soil Science, vol 54, No. 1, New Brunswick, N. J. (July 24, S(200) 1942), pp 1-26, illus. So3

This article presents in tabular form data on 126 soil samples. The first table locates and describes horizon, depth, thickness, color, and texture of 35 soil samples. The second table presents laterites according to four different parent rocks: sandstone, basalt, limestone, and mixed. The tables are followed by a discussion on use of the terms "podzolized," "lixiviation," and "laterization."

SI34-01-02-X0 Pendleton, Robert Larimore, and Sharasuvana, Sangar. "Analyses of some Siamese laterites." Soil Science, vol 62, No. 6, New Brunswick, N. J. USGS (1946), pp 423-440, illus. S(200) So3

A critical review of the literature on laterite is presented. The authors set forth their definition of laterite as follows: "the term 'laterite' is used in the original restricted sense; namely, it is the indurated slaglike or pisolitic, iron-oxide rich, illuvial horizon in the soil, of such a physical character that the material can be quarried out and used structurally." Analyses for  $\text{SiP}_2$ ,  $\text{Fe}_2\text{O}_3$ , and location and description are given for 53 samples. The bibliography contains 25 references.

SI35-01-02-X0 Pendleton, Robert Larimore, "The formation, development, and utilization of the soils of the Bangkok Plain." The Natural History Bulletin of the Siam Society, vol 14, No. 1, Bangkok, Thailand (May 1947), pp 1-11, LC illus, map. GPRR

This comprehensive report is one of the best written on the area. The author covers, in great detail, the physiographical and agricultural subdivisions, deposition of sediments, pavement material, alteration of river silts, soils, five different clay types, soluble salts, red colorations, geologic age, vegetable growing, river meandering and soil alteration, lateral tectonics, and lateritic soils and laterite. Soil texture, color, depth, distribution, and occasionally pH are included.

SI36-01-02-X0 Pitakpaivan, Kaset, "Occurrence of Triassic formation at Mae Moh." Report of Investigation No. 1, Thailand Royal Department of Mines, Bangkok, Thailand (1955) pp 47-57, map.

This is an account of the occurrence of ammonite-bearing and other fossiliferous Triassic formations in the Mae Moh area of Thailand. Of the seven units distinguished, three are fossiliferous.

SI37-02-02-X0 Poomvises, Vira, Moormann, F. R., and Montrakun, Sarot, "Detailed reconnaissance soil survey of the Lam Pao irrigation project (Kalasin Province)." Miscellaneous Soil Reports of the Royal Irrigation Department, Department of Agriculture, and the Department of Rice, No. 12, Thailand Ministry of Agriculture, Bangkok, Thailand (February 1961), 29 pp, illus, maps.

This report supersedes the "Soil survey report No. 2," Soils of Thailand, which was issued in 1961. A more detailed survey (through field inspection and photogrammetric analysis) and establishment of the new soil classification scheme necessitated the revision. The area of

approximately 60,000 acres is located between Yang Talat and Kalasin, or approximately 50 miles east of Khon Kaen. The report is presented in sections of general information, soils, land classification, and conclusions and recommendations. The first describes the area in terms of topography, geomorphology and parent material, climate, vegetation and land use, and hydrography. Fourteen soil series are described according to type, texture, color, pH, drainage, and agricultural use. The land classification section describes areas relative to their irrigability and projected agricultural use. The conclusion is reached that the irrigation possibilities are excellent and no major engineering problems should be encountered. In addition to a small-scale location map, cross section, and rainfall data, the following three maps are included: (1) "Lam Pao irrigation project soil map," (2) "Lam Pao irrigation project land classification map for rice," and (3) "Lam Pao irrigation project land classification map for irrigated upland crops." These maps are at a scale of 1:50,000 and cover the geographic area of 16°20'N to 16°35'N and 103°20'E to 103°35'E, with the actual mapped area being slightly smaller. The first map shows the areal extent of the Chiang Mai, Phi Mai (including some Ratburi), Si Thon, Kalasin, Udorn, Roi Et, Ubon, Khorat, and Phon Phisay series, plus three associations and complexes composed of two or more series. The second map shows the areal extent of irrigable classes of good with slight limitation, moderate with moderate to rather severe limitations, and not suited. The limitations are defined as to soil, topography, drainage, subject to periodic flooding, and salinity. The third map has the same units as the second. The maps also show various types of roads, villages, drainage, and have 5-minute coordinates. This report provides a good description of the soils of the area.

SI 99-02-02-X0

Poomvises, Vira, Moormann, F. R., Ratanaprayura, Chalermthep, and Montrakun, Sarot, "Detailed reconnaissance soil survey of the Mae Taeng irrigation project (Chiang Mai Province)." Miscellaneous Soil Reports of the Royal Irrigation Department, Department of Agriculture, and the Department of Rice, No. 14, Thailand Ministry of National Development, Bangkok, Thailand (April 1963), 18 pp, illus, maps.

This survey covers approximately 75,000 acres along the western bank of the Mae Nam Ping extending from 18°30'N to 19°10'N. It supersedes a report issued as "Soil survey report No. 3," Soils of Thailand, 1961, by Sarot Montrakun. The revision was necessitated by a more detailed survey and the new classification system for the soils of Thailand. It was accomplished through the use of field surveys in February and April 1963 and by photogrammetric analysis.

The report is presented in sections on general information, soils, land classification, and conclusions and recommendations. The first describes the area according to topography, geomorphology and parent material, climate, vegetation and land use, and hydrography. In the following section, nine soil series are described in terms of type, texture, color, pH, drainage characteristics, and agricultural use. Six of these series are found in northeast Thailand. The land classification sections discuss the irrigability of the area in terms of rice and upland crops. The conclusion is reached that the area is favorable for irrigation, and it is recommended that a program be implemented. In addition to a small-scale location map, cross sections, and climatic data, the following three noteworthy maps are included: (1) "Mae Taeng irrigation project soil map (detailed reconnaissance)," (2) "Mae Taeng irrigation project land classification map for rice," and (3) "Mae Taeng irrigation project land classification map for irrigated upland crops." These maps are at a scale of 1:50,000 and cover a narrow strip along the left bank of the Mae Nam Ping from 18°30'N to 19°10'N. The first map shows the areal extent of Phi Mai and Rat Buri, Mae Khon, Kalasin, Hang Dong, Lampang, San Pa Tong, and Mae Rim series, plus an alluvial complex composed of four series. Areas of slope complex are indicated. The second map shows irrigable classes of excellent, good with slight limitations, moderate with moderate to rather severe limitations, and not suited. The limitations are defined as to soil, topography, and subject of periodic flooding. The third map is identical to the second map, with the exceptions of no excellent class, and a drainage limitation is added. The maps also show various classes of roads, villages, and drainage. Five-minute coordinates with internal crosses are shown.

SI 99-02-02-X0

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Polynov, R. B., "On the map of Asia," Proceedings and Papers of the Second International Congress of Soil Science. Commission V, Classification, Geography and Cartography of Soils, Leningrad, Moscow, USSR, July 20-31, 1930, State Publishing House of Agricultural, Cooperative and Collective Farm Literature (Selkolkhozgiz), Moscow, USSR, 1932, pp 393-398, maps.

This article describes the soil map as prepared by K. D. Glinka in 1927 and enlarged by L. I. Prassolov at a later date. The author explains the sources of material for preparation of the map, previous work, and soil categories. The map (included in the report) covers Asia and divides soils into 13 types. The entire MERS area is mapped as "red soils of subtropical climates."

S140-01-02-X0

Richardson, J. A., "Bauxite formed in situ in alluvium, and lateritization of alluvium and limestone in the Mae Khlaung and Khwae Noi valleys, Siam." Institute of Mining and Metallurgy Bulletin, No. 490 (1947), pp 13-17, map.

The geology of the area and the location, depth, thickness, and characteristics of the bauxite deposits are discussed. Thin strips of silty clay in the alluvium have been partly lateritized.

S141-01-02-X0

Robinson, Gilbert Wooding, Soils, Their Origin, Constitution, and Classification. Thomas Murby and Co., London, England, 1932, 390 pp, illus.

LC

S591

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This general presentation on pedology contains sections on the origin, properties, and constitution of soils; the chief soil groups of the world; classification problems; and soil surveys and analysis. Chapters on geographic distribution of soils and soils of the humid and subhumid tropics contain little on specific areas such as Southeast Asia. References conclude each chapter.

S142-02-02-XVCL

Royen, William van, "The agricultural resources of the world." Atlas of the World's Resources, vol 1, Prentice-Hall, Inc., for the University of Maryland, New York, N. Y. (1954), 257 pp, maps.

G1046

G3V21

V.1

S143-01-02-X0

Royen, William van, and Bowles, Oliver, "The mineral resources of the world." Atlas of the World's Resources, vol 2, Prentice-Hall, Inc., for the University of Maryland, New York, N. Y. (1952), 181 pp, maps.

AMS

G1046

G3V21

V.2

Mineral industries of the world and the overall outlook for each are discussed first in this volume. A small-scale map, at an approximate scale of 1:125,000,000, shows the major mineral deposits of the world. This is expanded to an approximate scale of 1:27,000,000 for southern and eastern Asia. Textual description and production statistics accompany the maps.

S144-01-02-X0

Russell, E. John, Soil Conditions and Plant Growth, 6th ed. Longmans, Green, and Company, New York, N. Y., 1932, 636 pp, illus.

Univ. of Ill. Lib.

G31

R9186

This heavily footnoted text is a summary of information known about soil processes affecting plant growth. The topics plant growth, soil composition, changes in mineral and organic matter, soil characteristics, and others are discussed. The appendixes contain an explanation of soil analysis methods and a 23-page bibliography.

S145-01-02-X0

Sagawa, Masao, "A note on the outlines of tin deposits in peninsula Thailand, mainly on the placers." Mining Gazette, vol 5, No. 5, Bangkok, Thailand (May 1960), pp 9-35.

G371

402(635)

JW 10

This paper divides tin deposits into valley placers, littoral placers in the shallow sea, littoral placers in areas which were formerly shallow seas, eluvial and decomposed primary deposits, and shallow primary deposits. Examples of such type are described according to geology, distribution, and geographical features.

SI46-01-05-XO      Sugawa, Masao, Reconnaissance of Mineral Resources of Thailand. MRS, SCAP, Tokyo, Japan, June 5, 1944, 26 pp.

Not available for review.

SI47-01-05-XO      Shiboi, T., The Mineral Resources of South Asia. South Seas Society, Investigation Department, Tokyo, Japan, Chapter 5, April 22, 1940, pp 383-439.

Not available for review.

SI48-01-05-XO      Shnyder, S., Sochevko, G., Aleksandrovskaya, M., and Ivanova, L. (Burma, Vietnam, Cambodia, Laos, Thailand, Federation of Malaya, and Singapore)  
AMS      Union of Soviet Socialist Republics State Geographic Literature Press,  
G2360      Moscow, Russia, 1959, 54 pp.  
U48

This Russian publication appears to be a companion to the map edited by M. A. Ivanova with sections on each of the countries. Not available for review.

SI49-02-02-XO      Siam Royal Department of Lands and Mines, The Mineral Wealth of Thailand.  
WGS      Bangkok, Siam, 1940, 175 pp, map.  
402(635)  
SI2a

This book is printed in Thai with occasional geologic terms and major headings in English. These terms and headings indicate a good discussion of mineralogy and a fairly complete coverage of general geology, complete with strikes and dips, joints, and veins. Mineral deposit discussions appear to be a résumé of previously published material. A detailed discussion of the mining industry concludes the text. The accompanying map, "Map of the Kingdom of Siam Geological Map," at a scale of 1:2,500,000, has an English legend with other data in Thai. Approximately 60 percent of the country is mapped spottily, with the exception of nearly complete coverage of the Khorat Plateau. The areal extent of Recent coastal deposits or alluvium; Tertiary shale, conglomerate, micritic limestone, or sandstone and basalt; Trias-upper shale or sandstone; Trias-middle shale, limestone, or sandstone; Trias rhyolite and dikes of porphyry; Trias-igneous granite and allied rocks; Permian-carboniferous limestone; Carboniferous (?) lower dark limestone; Paleozoic-lower sandstone, quartzite, slate, or schist; and gneiss or schist of an undetermined age. One-degree coordinates with bars representing each 5-minutes are on the map.

SI50-01-02-XO      Siam Royal Department of Mines, Notes on Mining in Siam with Statistics to April 1st, 1912. Bangkok, Thailand, 1912, 7 pp.  
WGS  
402(635)  
SI2

The minerals of Thailand include rubies, sapphires, gold, tin, copper, coal, iron, zinc, lead, wolfram, antimony, and molybdenum. Only tin and wolfram are commercially important with tin being the most important. The major tin and wolfram areas are discussed and locations of the lesser minerals and exploitation attempts are briefly mentioned. Four tables present the tin output, revenue obtained, and areas involved for tin leases.

SI51-01-02-XO      Siam Royal Department of Mines and Geology, Report. Bangkok, Siam, 1925, 1926.

This report, consisting of a small written part and many tables, is in Thai. Not available for review.

S152-01-02-XH Siam Royal Irrigation Department, Project Estimate for Works of Irrigation, Drainage, and Navigation to Develop the Plain of Central Siam. Volume III, printed at the "Bangkok Daily Mail," 1915, 116 pp.

S153-01-02-XGL Smyth, Herbert Warington, Notes of a Journey on the Upper Mekong, Siam. John Murray, London, England (published for the Royal Geographical Society), 1895, 109 pp, illus, maps.

S154-02-02-XG Smyth, Herbert Warington, "Notes on a journey to some of the South-Western provinces of Siam." The Geographical Journal, vol 6, Nos. 5 and 6, London, England (November and December 1895), pp 401-421 and pp 522-545, illus, map opposite p 496.

AMS  
G1  
G34  
V.6

The purpose of this trip was to visit and report on certain tin deposits in Peninsular Siam. The author, who works for the Royal Department of Geology and Mines in Bangkok, stresses geology in his descriptions, but with many notes on outstanding cultural features or points of interest. The two maps are entitled "The Chief passes from Siam into Tavoi" (1:1,000,000) and "The Siamese Malay States" (1:5,000,000). They show the authors route, drainage, shaded relief, and only a few place names. The first map extends from 13°N to 15°N, 98°E to 100°E and the second shows 5°N to 15°N, 98°E to 102°E. Although some useful information is included in this article, the vast majority is not of help in a quantitative terrain program.

S155-02-02-XO Snitwongs, Prompan, "Report on the soil survey of Tha Phra agricultural station and surroundings (Khon Kaen Province)." Miscellaneous Soil Reports of the Department of Agriculture, Department of Rice, and the Royal Irrigation Department, No. 15, Thailand Ministry of Agriculture, Bangkok, Thailand (June 1963), 8 pp, illus, maps.

This report covers approximately 4500 acres located 12 kilometers south of Amphoe Muang, Changwat Khon Kaen, which is a proposed Agricultural Research Center. The survey was accomplished through a field survey during April 1963 and by photogrammetric analysis. The report is presented in three sections. The first section, on general data, describes the area in terms of topography, geomorphology and parent material, climate, vegetation and land use, and hydrography. In the second section, six soil series are described as to type, texture, color, pH, and agricultural use. In the final section, the author concludes that the area is representative of the soils in the region and recommends that the center be established. In addition to a small-scale location map, cross section, and climatic data, the following maps are included: "Land use map of the area of Tha Phra agricultural station," and "Detailed soil map of the area of Tha Phra agricultural station." These maps are at an approximate scale of 1:10,000 and cover an area south of the Lam Chi and east of the villages of Ban Nong Bua and Ban Tha Phra. The first map shows the areal extent of forests, forests and shrubs, upland crops and shrubs in shifting cultivation, upland crops, pastures, native grasses, rice fields, garden and urban, and marsh. The second map shows the areal extent of the Roi Et, Ubon, Kalasin, Khon, Chiang Mai, and Phi Mai series. The maps also show roads, railroad, drainage, and cultural features, but have no coordinates.

S156-02-02-XO Société Grenobloise d'Études et d'Applications Hydrauliques, Agro-Pedological Study of the Upper Nam Chee Basin. Unpublished English translation, Grenoble, France, 1962 (?).

This item was unavailable for review during this survey. However, in U. S. Army Engineer Waterways Experiment Station, CI. "Results of survey of existing data and literature," Environmental Factors Affecting Ground Mobility in Thailand, Preliminary Survey, Appendix A, Technical Report No. 5-625, Vicksburg, Miss., May 1963, 8 pp, the following annotation is given:

"This study, a contribution of the Government of France, covers a substantial

part of the northwestern Khorat Plateau. The report includes three 1:250,000-scale maps: a soil's map, a land-classification map, and a soil-boring map. Useful laboratory test results are provided for many of the borings. While the study appears to have been fairly complete, the mapping is of necessity rather general. The soil classification nomenclature is unlike that of other modern soil surveys in Thailand; therefore, it is difficult, but not impossible, to use the data in the referenced report for mobility research."

- SI57-01-02-X0 "Soils of Thailand and their utilization." The Geographical Review, vol 31, No. 4, New York, N. Y. (October 1941), pp 678-679.

This review mentions some of the more prominent soil types in Thailand and their general locations and adaptations to Thailand agriculture. Pendleton's major articles are mentioned and furnish the background for all general statements made in the review.

- SI53-01-02-X3LC Spencer, Joseph Earle, Asia East by South. John Wiley and Sons, Inc., New York, N. Y., 1954, 453 pp, illus, maps.

- SI59-01-05-X0 Staker, Ernest V., Soils and Soil Improvement Work in Thailand. U. S. Operations Mission, 1958, 12 pp. (Mimeographed.)

Not available for review.

- SI60-01-02-XVC Suvatabandhu, K., "Vegetation of Thailand and its correlation with climate and soil type." Proceedings of the Symposium on Humid Tropic Vegetation, Tijawi, Indonesia, UNESCO Science Cooperation Office for Southeast Asia, New Delhi, India (December 1958), pp 170-175.

- SI61-01-02-X0 Stevens, C. G., editor, Soil Surveys for Land Development. FAO Agricultural Studies No. 20, United Nations Food and Agriculture Organization, Rome, Italy, March 1953, 110 pp, illus, maps.  
LC  
S591  
.F65

This book follows the basic outlines of the USDA Soil Survey Manual and discusses the topics soil classification and mapping, soil surveying and mapping, soil survey reporting, soil classifications, and others. It is basically a field methods procedure book, and no quantitative data relating to the MERS area are included. A 28-item bibliography is included.

- SI62-01-02-XLVH Terrain Features, Thailand. Intelligence Estimate, Annex A.1, April 1959, 17 pp.

- SI63-01-02-X0 Thailand Delegation, "Natural occurrences of uranium and thorium in Thailand." Proceedings of International Conference on Peaceful Uses of Atomic Energy, vol 6, Geneva, Switzerland, 1956, pp 201-203, map.

A brief geologic and mining background of Thailand's mining areas are given along with the occurrence of radioactive minerals. Tin and tungsten deposits are found in western and Peninsular Thailand where sedimentaries have been intruded by granite. Interest in the radioactive minerals has progressed since 1945 and tin and tungsten mine tailings have been found to contain some of these minerals. Monazite, a thorium-bearing mineral, has been found in pegmatite veins, granite gneiss, and the adjoining eluvial or alluvial areas. The uranium-bearing minerals, euenite and an unidentified mineral, have been observed in the tailings. Chemical analysis of the unidentified mineral is given. The future of these mineral industries is dependent upon the amount of tailings produced and the development of economical methods of extracting the minerals. A small-scale map shows major towns and drainage in Peninsular Thailand.



- S164-01-02-XGV Thailand Department of Commerce, "Botanical Section - report on a tour in Northeastern Siam and French Laos, with an account of a trip from Prachuab to Mergui March B.E. 2474 - June B.E. 2475." The Record, vol 12, No. 4, and vol 13, No. 1, Bangkok, Thailand, First and Second Quarters B.E. 2476 (1933), pp 317-323 and 36-43.
- S165-01-02-XG Thailand Department of Commerce and Communications, Report on a Tour in the Provinces of Ranavng, Takuapa, Pang-Nga and Puket (December 19, 1928 - March 16, 1929). Bangkok Times Press, Limited, Bangkok, Thailand, illus, map. Reprinted from The Record, Nos. 38 and 39, Bangkok, Thailand, October 1930 and January 1931, pp 235-246.
- S166-01-02-XIC Thailand Department of Commercial Intelligence, Thailand Nature and Industry, II, Physical Features, Geology, and Climate. Bangkok, Thailand, September 1951, 43 pp, illus.
- S167-01-02-XGV Thailand Ministry of Agriculture and Commerce, Report on a Tour in the Circles of Nakon Rajasima and Udon, June-July B.E. 2475. The Bangkok Times Press, Limited, Bangkok, Thailand, July 1932, 6 pp, illus. Reprinted from The Record, vol 12, No. 3, Bangkok, Thailand, July 1932, pp 209-214.
- S168-01-02-XGV Thailand Ministry of Agriculture and Commerce, "Report on tour in the provinces of Korat, Chaiyapum, Kawn Ken, Loi, and Petchabun, January 19 to March 10, 1931." The Record, vol 12, Nos. 1 and 2, Bangkok, Thailand (July 1932), pp 9-20 and 128-139, illus.
- S169-01-02-XGV Thailand Ministry of Commerce, "Report of a tour undertaken by the Botanical Section in the circle of Pattani (July-September 1923)." The Record, No. 12, Bangkok, Thailand (April 1924), pp 18-24, map.
- S170-01-02-XGV Thailand Ministry of Commerce, Report of the Botanical Section, September 1, 1920 to December 31, 1922. Bangkok Times Press, Limited, Bangkok, Thailand, July 1923, 15 pp, map. Reprinted from The Record, Bangkok, Thailand, April and July 1923.
- S171-01-02-XGV Thailand Ministry of Commerce, "Report on a tour of the Botanical Section in the Island of Kaw Chang (Chandaburi Circle), Latitude 12°N, Longitude 102°25'E (from September 24 to October 5, 1924)." The Record, No. 19, Bangkok, Thailand (January 1926). pp 173-177.
- S172-01-02-XGV Thailand Ministry of Commerce, "Report on a tour of the Botanical Section through the eastern circles of Siam (December 1923-April 1924)." The Record, Nos. 15 and 16, Bangkok, Thailand (January and April 1925), pp 157-172 and 217-233, map.

- S173-01-02-XGV Thailand Ministry of Commerce and Communications, Report on a Second Tour in the Province of Surat, Southern Siam (July 16-August 16, 1927). Bangkok Times Press, Limited, Bangkok, Thailand, July 1929, 6 pp, illus. Reprinted from The Record, No. 32, Bangkok, Thailand, April 1929.
- S174-01-02-XGV Thailand Ministry of Commerce and Communications, "Report on a tour in the Province of Naratiwad (April 12 - May 6, 1931)." The Record, No. 41, Bangkok, Thailand (July 1931), pp 14-19, illus.
- S175-01-02-XGV Thailand Ministry of Commerce and Communications, Report on a Tour in the Province of Prachuap (June-July 1926) and Report on a Tour up the Menam Pasak (October 1926). Bangkok Times Press, Limited, Bangkok, Thailand, April 1928, 8 pp, illus, map. Reprinted from The Record, No. 28, Bangkok, Thailand, 1928.
- S176-01-02-XGV Thailand Ministry of Commerce and Communications, Report on a Tour in the Provinces of Chumpawn, Langsuan, and Surat, and Summary of Tour with General Notes (December 25, 1926 to April 21, 1927). Bangkok Times Press, Limited, Bangkok, Thailand, September 1928 and March 1929, 13 pp, illus, map. Reprinted from The Record, Nos. 29 and 30, Bangkok, Thailand, September and October 1928.
- S177-01-02-XGV Thailand Ministry of Commerce and Communications, "Report on a tour in the provinces of Surat, Pang-Nga, Krabi, Trang, and Patalung (Feb 16 - May 3, 1930)." The Record, Nos. 43 and 44, Bangkok, Thailand, January and April 1932, pp 211-232, illus, map.
- S178-01-02-XGV Thailand Ministry of Commerce and Communications, Report on a Tour in the Provinces of Trat and Chantabun (December 16, 1929 - January 13, 1930). The Bangkok Times Press, Limited, Bangkok, Thailand, 1931, 8 pp, illus. Reprinted from The Record, No. 42, Bangkok, Thailand.
- S179-01-02-XGV Thailand Ministry of Commerce and Communications, "Report on a tour of the Botanical Section in the circle of Rajaburi (December 28, 1925 - March 19, 1926)." The Record, Nos. 24 and 25, Bangkok, Thailand, April and July 1927, pp 570-578 and 27-34, map.
- S180-01-02-XGV Thailand Ministry of Commerce and Communications, "Report on a tour of the Botanical Section in the circles of Chantaburi and Prachinburi (from November 22, 1924 to January 19, 1925)." The Record, Nos. 21 and 22, Bangkok, Thailand, July and October 1926, pp 337-343 and 387-392.

- S181-01-02-XGV Thailand Ministry of Commerce and Communications, Report on Three Tours in the Provinces of Nakawn Sritamarat, Songkla, Satul, and Patalung (Tour 1, December 21, 1927 to January 31, 1928). Bangkok Times Press, Limited, Bangkok, Siam, September 1929, 12 pp, illus, map. Reprinted from The Record, No. 33, July 1929.
- S182-01-02-XGV Thailand Ministry of Commerce and Communications, Report on Three Tours in the Provinces of Nakawn Sritamarat, Songkla, and Patalung (March 7 - May 16, 1928). Bangkok Times Press, Limited, Bangkok, Thailand, December 1929 and January 1930, 12 pp, illus. Reprinted from The Record, Nos. 34 and 35, Bangkok, Thailand, October 1929 and January 1930.
- S183-01-02-XGLVHC Thailand Ministry of Commerce and Communication, Siam Nature and Industry. Bangkok Times Press, Limited, Bangkok, Thailand, November 1930, 323 pp, illus, maps.
- S184-01-02-X0 AMS  
TN99  
U39 Thailand Royal Department of Mines, "Development of ferro-alloy metallic deposits in Thailand." Development of Mineral Resources in Asia and the Far East, U. N. Economic and Social Council, E/CN.11/374, Bangkok, Thailand (1953), pp 275-277.

The ferro-alloy metallic deposits of manganese and tungsten are all that occur in Thailand. Manganese deposits are of both primary sedimentary and secondary origins. The only deposit exploited to even a limited extent is at Koh Kram in the province of Choburi (island). Other deposits are known to occur in the provinces of Kanchanaburi, Chumporn, Pattani, and Yala. Tungsten deposits are better developed and are confined to the granitic belt bordering Burma. Important deposits are in the Pilok District in Kanchanaburi, The Mae Sariang area in province Mae Hongson, the Mae Sod deposits in Tak, mines in the provinces of Nakon Sri Thamrat, Songkla, and Surat Thani. Smaller production is obtained from the provinces of Phuket, Phanga, Yala, and Takuapa. Geologic descriptions are given for the Mae Sariang and Pilok areas. Production statistics and possibilities of increasing production conclude the report.

- S185-01-02-X0 AMS  
TN99  
U39 Thailand Royal Department of Mines, "Development of iron ore resources in Thailand." Development of Mineral Resources in Asia and the Far East, U. N. Economic and Social Council, E/CN.11/374, Bangkok, Thailand (1953), pp 232-234.

Iron ore is the most widespread mineral occurring in Thailand and is of the contact metamorphic and laterization type origin. A table lists 22 known deposits of iron, the province and district in which they occur, type deposit, iron minerals, and pertinent remarks. Of these, only four have been studied in detail. These are the deposits at Koh Cham, Khao Thong, Khao Thap Khwai, and Bo Dam. Some geological data and reserve estimates are given for these deposits. General discussions of the mining methods, smelting methods, and ways to increase production conclude the report.

- S186-01-02-X0 AMS  
TN99  
U39 Thailand Royal Department of Mines, "Development of nonferrous metals in Thailand." Development of the Mineral Resources in Asia and the Far East, U. N. Economic and Social Council, E/CN.11/374, Bangkok, Thailand (1953), pp 364-366.

Four nonferrous metals occurring in Thailand, i.e. lead, zinc, copper, and tin, are discussed. The latter is the more abundant and is the main product of the mining industry. Lead-zinc deposits are of the replacement type and contact metamorphic type. The replacement deposit

at Nong Phai in Kanchanaburi has been worked since the end of the last war. The contact metamorphic deposit in Tham Thalu in Yala is the first deposit known to be worked but is now closed. Copper deposits occur in many parts of Thailand but none are of commercial value and are not located in this publication. Tin occurs as cassiterite and is associated with wolframite. The deposits are found in the granite ranges of the Burma border as fissure veins, stockworks, and pegmatite. The deposits are commonly dredged, or where more practical, gravel pumped or hydraulicked. The development of the industry and possibilities of increasing production conclude the report.

S187-01-02-X0      Thailand Royal Department of Mines, "Development of solid mineral fuels in Thailand." Development of Mineral Resources in Asia and the Far East, U. N. Economic and Social Council, E/CN.11/374, Bangkok, Thailand (1953), pp 195-199.

AMS  
TN99  
U39

Thailand's solid mineral fuel is characteristically low in fixed carbon and high in volatile matter. It is mostly Tertiary in age and occurs either in synclines in the north or in the southern coastal plains. Major deposits are located 25 km southeast of Krabi, 6 km northeast of Mae Moh, and at Kiansa.

S188-01-02-X0      Thailand Royal Department of Mines, Report of Investigation No. 1. Bangkok, Thailand, 1955, 57 pp (pages 1-35 in Thai; 35-57 in English).

USGS  
402(635)  
S12ri

SEE: Aranyakanond, Payome, "Diamond discovery in Phangnaga and Phuket, South Thailand." Report of Investigation No. 1, Thailand Royal Department of Mines, Bangkok, Thailand (1955), pp 35-36, illus.

Aranyakanond, Payome, and Nilkhuha, Chana, "Radio-active minerals from tin and tungsten mines in Thailand." Report of Investigation No. 1, Thailand Royal Department of Mines, Bangkok, Thailand (1955), pp 41-46.

SEE: Charlajavanaphet, Junchet, "Artesian conditions in Northeast Thailand." Report of Investigation No. 1, Thailand Royal Department of Mines, Bangkok, Thailand (1955), pp 37-39, map.

Pitakpaivan, Kaset, "Occurrence of Triassic formation at Mae Moh." Report of Investigation No. 1, Thailand Royal Department of Mines, Bangkok, Thailand (1955), pp 47-57, illus.

S189-01-05-X0      Thailand Royal Department of Mines, Report of Investigation No. 2. Bangkok, Thailand, 19 .

Not available for review.

S190-01-03-X0      Thailand Royal Department of Mines, Report of Investigation No. 3. Bangkok, Thailand, 1960, 73 pp. (In Thai and English.)

AMS  
TN113  
T3A4  
No. 3

The three articles of this report are concerned with tin metallurgy.

- S191-01-02-X0 Thailand Royal Department of Mines, Geological Survey, "Memorandum on iron deposits of Thailand." Symposium Sur le Fer, 19th International Geological Congress, Algeria (1952), pp 611-618, maps.

The common ore minerals are limonite, hematite, and magnetite with a few deposits of concentrated lateritic soils whose iron content exceeds 40 percent. Iron ore deposits of laterite blanket many types of bedrock and contact metamorphic deposits occur where igneous rocks have intruded calcareous sediments. The former are widespread while the latter have limited distribution but are known to exist in both central and southern Thailand. The largest known deposit is at Khao Thap Khwai, Lop Buri Province, which is about 200 km north of Bangkok. The deposit is dense, compact hematite with estimated reserves of 720,000 metric tons. Five tables are given which show partial chemical analyses (iron content of some Thailand rocks), locations of prospective iron deposits, estimate of iron reserves by province, production of iron ore from 1943 to 1950, and iron and steel imports from 1910 to 1959. A small-scale map shows communication routes, mining concessions, and deposits of laterite, limonite, hematite and specularite, and magnetitic deposits.

- S192-02-02-XHC Thailand Royal Irrigation Department, The Greater Chao Phraya Project. Bangkok, Thailand, 1955, 43 pp, maps.

- S193-03-02-XHC Thailand Royal Irrigation Department, The Yan-Hee Hydro-Electric Multipurpose Project, Thailand. Bangkok, Thailand, January 1953, 253 pp, illus, maps.

- S194-02-02-X0 Thailand Soil Survey Division, "Note on the soil survey of the Khao Tao area." Soil Survey Reports of the Land Development Department, No. 17, Thailand Ministry of National Development, Bangkok, Thailand, January 1964 (provisional edition), 11 pp, illus, maps.

This report, covering the area slightly north of Pran Buri, is the result of field surveys conducted in January 1964 and photogrammetric analysis of the area. The soils are described as to type, depth, salinity, pH, and agricultural use. Water and salt problems and recommendations for improving land use are briefly discussed. In addition to a small-scale location map, rainfall data, and lake water analysis, two maps are included. These maps, "Situation map of the Khao Tao area" and "Soil and land units of the Khao Tao area," are at a scale of 1:10,000 and 1:4,000, respectively. The first map shows locations of wells, suggested area for deep well drilling, watershed boundaries, and irregular contours. The second map shows two types of dune soil, three types of lagoon soil, alluvium, three types of alluvial terraces, slope colluvium, old marine terrace, slope complex, and rock outcrops. Both maps show roads, railroads, drainage, and towns.

- S195-01-03-X0 "Thailand's tin mining industry." The Mining Journal, vol 354, No. 6500, London, England (March 18, 1960), pp 323-324.

LC  
TN1  
.M65

This short article discusses the production of tin and its benefit to Thailand's growing economy. Operation methods, production statistics, and prospects from the viewpoint of the World Bank Mission's economic survey of the industry are briefly described.

- S196-02-02-X0 Thongchuta, Tanit, and Konthabund, Sonng, "Report on the soil survey in the Ban Si Than area (Khon Kaen Province)." Miscellaneous Soil Reports of the Department of Agriculture, Department of Rice, and the Royal Irrigation Department, No. 11, Thailand Ministry of Agriculture, Bangkok, Thailand (January 1963), 11 pp, illus, maps.

This report gives the results of an investigation of a proposed agricultural experimental station located approximately 2 miles north of Khon Kaen. The investigation was accomplished by a

field survey in November 1962 and photogrammetric analysis. The area, approximately 3500 acres, is first described in terms of topography, geomorphology, climate, vegetation and land use, and hydrography. Five soil series are described according to type, texture, color, pH, drainage characteristics, and agricultural use and potential. The conclusion is reached that the location is favorable but difficulties may be encountered with water supply, as the groundwater is saline. One map is included, in addition to a small-scale location map, cross sections, rainfall data, and reservoir analysis. This map, "Detailed soil map of the Ban Si Than area (Khon Kaen Province)," is at a scale of 1:10,000 + 150 and covers a small area east of Ban Nong Waeng. Mapped units are Kalasin, Ubon, Khorat, Nam Phong, and Yasothorn series. The map also shows roads, railroads, drainage, and towns, but has no coordinates.

S197-Q2-Q2-XO

Thongchuta, Tanit, and Nonthabund, Sonngug, "Report on the soil survey of a pilot area in Changwat Roi Et." Miscellaneous Soil Reports of the Department of Agriculture, Department of Rice, and the Royal Irrigation Department, No. 13, Thailand Ministry of Agriculture, Bangkok, Thailand (March 1963), 11 pp, illus, maps.

This report presents the results of a pilot study on the area surrounding Roi Et for the purpose of preparing to map the entire province and to test the new soil classification scheme. The study was accomplished through field surveys during January and February 1963 and supplemented to a small extent by photogrammetric analysis. It is presented in sections of general data, soils, and conclusions.

The first section describes the area in terms of topography, geomorphology and parent material, climate, vegetation and land use, and hydrography. In the second section, six soil series are described according to type, texture, color, pH, drainage, and agricultural use. The conclusions are reached that the legend of the proposed scheme is applicable and that the agricultural potential of the area is rather low. One map is included in addition to a small-scale location map and climatic data. This map, "Changwat Roi Et pilot survey semi-detailed soil map," is at an approximate scale of 1:20,000 and covers a small area with Roi Et as its center. It shows the areal extent of the Khorat, Ubon, Roi Et, Phi Mai, Si Thon, and Kalasin series. The map also shows roads, towns, and drainage but has no coordinates.

S198-Q2-Q2-XO

Thongchuta, Tanit, Nonthabund, Sonngug, and Moormann, F. R., "Report on the soil survey of the site of the proposed agriculture centre near Santani Nam Phong (Khon Kaen Province)." Miscellaneous Soil Reports of the Department of Agriculture, Department of Rice, and the Royal Irrigation Department, No. 15, Thailand Ministry of Agriculture, Bangkok, Thailand (December 1962), 17 pp, illus, maps.

This report presents the results of the field survey and photogrammetric analysis of a possible agricultural experimental site located approximately 14 miles north of Khon Kaen. The area is described in terms of topography, geomorphology and parent material, climate, vegetation and land use, hydrography, and soils. The soils are divided into lowland, low upland, and upland categories, and 11 series are described according to type, texture, color, pH, drainage characteristics, and agricultural use. The conclusion is reached that the soils in the area are not representative of the Khorat Plateau to merit the establishment of an experimental station. In addition to a small-scale location map and cross sections, the three following maps are included: (1) "Location map of the Nam Phong agricultural centre site," (2) "Semi-detailed soil map of the Nam Phong agricultural centre site," and (3) "Land classification map of the Nam Phong agricultural centre site." The maps are at a scale of 1:10,000 and cover a small area southeast of the Nam Phong in the vicinity of Ban Nong Waeng.

The first map shows the areal extent of rice land, abandoned rice land in shrubs or forest, upland forest, upland forest and shrubs with evidence of shifting cultivation, lowland forest and forest in shifting cultivation, and other crops and urban areas.

The second map shows the areal extent of the Phal, Si Thon, Kalasin, an alluvial complex (including Chaisri, Phal, and Kalasin), Ubon, Phum, Khorat, Nam Phong, and Phum Phai Say series. Plus a complex of the Nam Phong and Khorat series.

The third map shows irrigated lands of excellent, good with slight limitations, moderate with some to rather severe limitations, and not suited for the use of upland crops and rice. The limitations are defined according to soil, topography, drainage, and subject to periodical flooding. The map also shows roads, railroads, drainage, and villages, but has no coordinates.

S199-01-03-X0

Thorp, James, "Laterite in connection with Pendleton's discussion of the soils of Siam." Proceedings of the 6th Pacific Science Congress, Berkeley, Calif. (1940). p 972.

In this brief note it is suggested that mottled clays associated with laterite should be regarded as lateritic material. Laterite subjected to erosion commonly develops well-drained red podzolic soils.

S200-01-03-X0

Thorp, James, "Reply to Dr. Pendleton on 'Further notes on laterite.'" Proceedings of the 6th Pacific Science Congress, Berkeley, Calif. (1940), pp 979-980.

This note follows the author's earlier remarks at the meeting and serves to clarify his distinction between laterite, lateritic material, and the podzolic soils.

S201-01-02-X0

DIA/DL  
EIF  
342306

Tippetts, Abbett, McCarthy, Stratton, Engineers, Report of Soils and Pavement Investigation for Airfield Pavements, Chiang Mai Airfield. July 1, 1957, 4 pp.

The airfield lies 2 km southwest of Chiang Mai at the foot of Doi Sutep, within a region characterized by parallel limestone ridges. The fill material was within the range sandy silt to sandy clay of slight plasticity. Moisture content is low. Construction design, soil profiles, logs, rainfall charts, pavement design curves, and soil test results are included.

S202-01-02-X0

DIA/DL  
EIF  
342305

Tippetts, Abbett, McCarthy, Stratton, Engineers, Report of Soils and Pavement Investigation for Airfield Pavements, Udon Airfield. January 9, 1957, 4 pp.

The airfield is located 2 km north of Udon Ratchathani on the Khorat Plateau. Weather and the water table are discussed. Figures include a vicinity map; locale of airfield showing sources of material; profile of subsurface exploration with logs of borings along the runway, taxiways, and aprons; design curves; pavement section; gradation curves of filter design; and a summary of laboratory test results.

S203-01-02-X0

DIA/DL  
EIF  
342304

Tippetts, Abbett, McCarthy, Stratton of Panama, Inc., Report of Soils and Pavement Investigation for Airfield Pavements, Udon Airfield. April 3, 1957, 4 pp, illus.

The airfield, 3 km southeast of Udon Thani, is on gently sloping ground. Data on climate, geology, groundwater, and terrain are provided. Construction designs, sources of construction material, soil profile along the airways, runway, and apron, and soil test results are presented among the illustrations.

S204-01-02-X0

DIA/DL  
EIF  
342303

Tippetts, Abbett, McCarthy, Stratton, Engineers, A Survey to Determine the Requirements for New Construction, Rehabilitation, and Maintenance of the Support Facilities for Existing and Proposed Airfields. April 8, 1957, 24 pp.

Best Available Copy

This study is concerned with the vicinity of the Mekong River near Vientiane, Laos. Among topics of discussion are: the poor transportation system of the country, general geology, dikes and the flood stages, and sources of gravel and rock for construction of airstrip pavements and roads.

3205-01-02-XO U. N. Economic Commission for Asia and the Far East, Mining Development in Asia and the Far East, 19 . Mineral Resources Development Series No.     ,  
USGS E/CN.11/     , Hong Kong, various dates, various pages.  
403  
qUn2lm

These reports are presented in two sections. The first is a review and forecast of the fuels, iron ore and mineral resources for ferro-alloys, mineral resources for nonferrous and precious metals, light metals, and nonmetallies other than fuels for the whole ECAFE region. The second section discusses the situation for individual countries. Thailand's tin and tungsten, lead, antimony, iron ore, and lignite industries are discussed in very general terms with a few locations and production figures given. Three small-scale maps show coal, iron, tungsten, manganese, copper, lead-zinc, and tin deposits in Thailand. Issues for 1953-1957 were examined during this survey.

3206-02-02-XO U. N. Economic Commission for Asia and the Far East, Coal and Iron Resources of Asia and the Far East. ST/ECAFE/5, Bangkok, Thailand, July 1952, 155 pp, maps.  
AMS  
TN99  
U36

This report considers resources in Burma, Ceylon, China, Hong Kong, India, Indochina, Indonesia, Japan, Korea, Malaya and Singapore, North Borneo, Sarawak and Brunei, Pakistan, Philippines, and Thailand. The first of two sections presents the regional picture of past and current surveys, known resources, and production. The second section treats individual countries. Attempts at exploitation of Thailand's coal have been of a limited nature but a growing need for fuels other than woods and a relaxation of government controls have renewed interest in known deposits. Five major coal deposits of Tertiary age are located at Kiansa, Phra Muang, Lumpura, Klong Kanun, and Mae Mo, and the government is investigating another lignite bed at Krabi that measures 15 meters in thickness.

Among known iron ore deposits which are listed here, the Ko Samui Island, Hua Wai, and Tap Kwai deposits are described. The three maps on Thailand show, at small scales, the status of topographic mapping and geology in Thailand with principal coal and iron deposits noted.

The map showing the status of topographic and geologic mapping in Thailand is incomplete and outdated. The second map, "Map of Thailand showing principal coal and iron deposits and sketch geological map," at a scale of 1:3,700,000, portrays the same geology as shown in the Siam Department of Lands and Mines' map entitled, "Map of the Kingdom of Siam, geological map." In addition to this, spot locations are given for three coal deposits and 10 iron-ore deposits. The third map, "Preliminary geological map of Thailand, 1950" at a scale of 1:5,780,000, portrays the same geology as shown on the map entitled, "Reconnaissance geologic map of Thailand," appearing in Geologic Reconnaissance of the Mineral Deposits of Thailand by Brown, Glen F., et. al. In addition to this, spot locations are given for five coal deposits and 11 iron-ore deposits.

3207-01-02-XO U. N. Economic Commission for Asia and the Far East, Mining Development in Asia and the Far East 1952-1953. E/CN.11/I&T/87, Bangkok, Thailand, October 27, 1953, 82 pp.  
LC  
HD9506  
.A64U5

This report is presented in two sections. The first section presents the outlook for the region as a whole and discusses fuels, iron ore and ferro-alloys, nonferrous metals, nonmetallies besides fuels, other minerals, and the cement and coal industries. The second section is concerned with more detailed information. Thailand is discussed in approximately three pages, and the resources petroleum, coal, iron ore, ferro-alloy metals, and nonferrous metals are included, with brief production statistics and general source locations given.



S203-01-02-X0

AMC  
TA993  
ABU34U. N. Economic Commission for Asia and the Far East, Lignite Resources of Asia and the Far East, Their Exploration, Exploitation, and Utilization.

Mineral Resources Development Series No. 7, E/CN.11/438, Hong Kong,

December 1956, 134 pp., illus.

This report treats lignite resources under sections on availability and production, exploration and development, processing, and utilization. The information on Thailand is in regard to the deposits at Khiansa, Lumphura, Ban Pu Dan, and Kantang and the large deposit at Mae Moh with anticipated production of about 200,000 tons annually.

S209-01-02-X0

AMC  
TA993  
U23U. N. Economic Commission on Asia and the Far East, Aerial Survey of Mineral Resources in the ECAFE Region and Recent Development in Aerial Survey Techniques. ST/ECAFE/SER.m/9, New York, N. Y., July 1953, 5 pp.

This report reviews surveys in progress in British Borneo, Burma, Ceylon, India, Japan, Malaya, Pakistan, the Philippines, and Thailand.

S210-01-02-X0

LC  
JX1977  
.A2U. N. Economic Commission for Asia and the Far East, Proceedings of the Symposium on the Development of Petroleum Resources of Asia and the Far East. Mineral Resources Development Series No. 10, E/CN.11/507, Bangkok, Thailand, April 1959, 251 pp.

The status of the industry for the entire region is reviewed and then details are presented in sections on the individual countries. Under Thailand (pp 214-217) there is a discussion of development of the Fang oilfield and of geophysical prospecting in the Chao Phraya Basin.

S211-02-02-X0

AMC  
TN863  
S99  
AnnexU. N. Economic Commission for Asia and the Far East, Proceedings of the Symposium on the Development of Petroleum Resources of Asia and the Far East, Annex to. Mineral Resources Development Series No. 10 (Annex), E/CN.11/507(Annex), Hong Kong, August 1959, 73 pp.

This annex contains figures and maps to accompany the proceedings. Only one of these maps, "Basin map of South-East and Australia," at a scale of 1:20,000,000, covers Thailand. The colored map shows volcanic areas; mountain ranges; structural trends; major faults or dislocation lines; sedimentary deposits whose thickness is unknown, less than 3000 ft, and greater than 3000 ft; continental sedimentary deposits; sedimentary deposits which are strongly tectonized, partly metamorphosed, indurated, or otherwise unfavorable for significant petroleum accumulation; predominantly crystalline, metamorphic, or Precambrian rocks exposed or thinly covered; and the location of oilfields, gasfields, areas of significant oil in wells or minor production, areas of significant gas in wells, and oil indications in nonproducing parts of the basins.

S212-01-02-X0

USCG  
308(000)  
Un374U. N. Economic Commission for Asia and the Far East, Geological Map of Asia and the Far East, Explanatory Brochure. Unique Printers, Calcutta, India, 1961, 74 pp., map.

This brochure has sections discussing generally the legend of the map, geologic history, stratigraphy, and correlation of the series. The map showing status of geologic surveys in the region indicates that Thailand is completely covered by reconnaissance surveys at various scales. The geologic map explained in this brochure first appeared in 1959 (see: India Geological Survey, Director, "Geological Map of Asia and the Far East." U. N. Economic Commission for Asia and the Far East and Commission of Geological Map of the World of International Geological Congress, 1:5,000,000, 1959).

SP-01-01-X0

United Nations Economic Commission for Asia and the Far East, Committee on Industry and Trade, Activities in the Field of Mineral Resources Development, Annex C, Kaolin Resources of the Region. New York, N. Y., 1953, 41 pp, maps.

The text portion of this publication was not available for review but a map was received separately. This map, "Map of Thailand showing known kaolin resources and other clays and some raw materials used in the ceramic industry," is at a scale of 1:4,000,000. It shows nine kaolin locations, eight silica locations, three feldspar locations, and one location each for pottery clay, dolomite, white calcareous clay, and gypsum.

SP-01-02-X0

United Nations Economic Commission for Asia and the Far East, Economic and Social Council, Mining Development in Asia and the Far East During 1951. E/CN.11/I&T/L.19, Bangkok, Thailand, June 3, 1952, 50 pp.

IC

HD-46

.A-405

This report is presented in two sections. The first section presents the outlook for the region as a whole and discusses fuels, iron ore and ferrous metals, nonferrous and light metals, and nonmetals other than fuels. The second section is concerned with the individual countries and gives more detailed information. Thailand is discussed in approximately two pages, and the commodities tin, tungsten, lead, zinc, iron ore, antimony, and gypsum are included together with brief production statistics.

SP-01-03-X0

United Nations Economic Commission for Asia and the Far East, Economic and Social Council, Development of Mineral Resources in Asia and the Far East. E/CN.11/274, Bangkok, Thailand, 1953, 366 pp.

AMS

TN-4

U39

This report contains a general summary of mineral resources and amplifying sections on geological surveys, the solid mineral fuel situation, and resources of iron, ferro-alloy metals, and nonferrous metals. The same topics are examined by country. Four sections on Thailand are listed under Thailand Royal Department of Mines.

SP-01-04-X0

United Nations Economic Commission for Asia and the Far East, Economic and Social Council, Post-War Development of Mineral Resources in Asia and the Far East. E/CN.11/I&T/L.12, Bangkok, Thailand, May 1, 1951, 45 pp.

IC

HD-46

.A-405

This report is presented in two sections. The first section presents the outlook for the region as a whole and discusses coal, petroleum, iron ore, ferrous metals, nonferrous metals, and nonmetals other than fuels. The second section is concerned with the individual countries and gives more detailed information. Thailand is discussed in approximately one page and the resources tin, tungsten, and iron ore are included, but only brief production statistics and general locations of sources are given.

SP-01-05-X0

United Nations Food and Agriculture Organization, Land Classification for Agricultural Development. FAO Development Paper No. 18, Rome, Italy, November 1952.

IC

SH-1

U4A-4

This paper reviews land classification in terms of inherent characteristics, present use, use capabilities, recommended use, and program effectation. Discussions of soil classification and the utilization of soil maps are included. Soil capability classifications and their use are presented. Summary and selected reference for various types of soil classification are included.

SP18-01-05-XO

United Nations Food and Agriculture Organization, Land Utilization in Tropical Areas. January 1952, 10 pp.

LC

S601

U6A13

Not available for review.

SP19-01-00-XO

United Nations Food and Agriculture Organization, Report of the First Meeting of the Working Party on Fertilizer. FAO Development Paper No. 11, International Rice Commission, meeting held in Bogor, Indon. Ia, April 1951. Rome, Italy, October 1951, 18 pp.

LC

S601

U6A13

No. 11

Soil productivity and the effects of various fertilizers and manures on rice yields are given along with a description of the methods used in conducting the experiments. The paddy soils of some of the more important rice growing areas are touched upon and the type fertilizer recommended is given along with the expected results. The report is concluded with recommendations for further research.

SP20-01-02-XO

United Nations Food and Agriculture Organization, Report of the Second Meeting of the Working Party on Fertilizer. FAO Development Paper No. 37, International Rice Commission, meeting held in Bandung, Indonesia, May 1952. Rome, Italy, August 1953, 46 pp.

LC

S601

U6A13

No. 37

Soil productivity and the effects of various fertilizers and manures on rice yields are given along with a description of the methods used in conducting the experiments. The paddy soils of some of the more important rice growing areas are touched upon and the type fertilizer recommended is given along with the expected results. The report is concluded with recommendations for further research.

SP21-01-04-XO

United Nations Food and Agriculture Organization, Report of the Third Meeting of the Working Party on Fertilizer. FAO Development Paper No. 39, International Rice Commission, Rome, Italy, December 1953, 46 pp.

USDA

281.9

F733

This paper discusses the effects of various fertilizers on rice yields. Test methods are described and production statistics are provided for India.

SP22-01-02-XO

United Nations Food and Agriculture Organization, Report of the Fourth Meeting of the Working Party on Fertilizer. FAO Development Paper No. 45, International Rice Commission, meeting held in Tokyo, Japan, October 1954. Rome, Italy, January 1955, 40 pp.

LC

S601

U6A13

No. 45

Soil productivity and the effects of various fertilizers and manures on rice yields are given along with a description of the methods used in conducting the experiments. The paddy soils of some of the more important rice growing areas are touched upon and the type fertilizers recommended are given along with the expected results. The report is concluded with recommendations for further research.

SP24-01-01-XO

United Nations Special Fund, Survey of Minerals and Mineral Processing Industries in the Lower Mekong River Basin, Laos and Thailand. Recommendation of the Managing Director, SF/R.3/Ald.41, March 24, 1961, 5 pp.

AMS

T.117

L.104

This report recommends that a project be initiated for developing deposits of iron, copper,

lead, zinc, bauxite, rock salt, gypsum, manganese, and coal found in an area of 50,000 square kilometers on both sides of the Mekong and centered around Vietiane and Udorn. The proposed project will consist of compilation of existing mineral data, field investigation, survey of local laterite deposits, and location of smelting plants. Time and funding for the project are mentioned.

- S224-02-02-XC U. S. Army Air Forces, Headquarters, Climate of Bangkok (Thailand). General Climatic Information Guide No. 75, Washington, D. C., December 1943, 4 pp, maps.
- S225-01-01-XLHVC U. S. Army Engineer Waterways Experiment Station, CE, Environmental Factors Affecting Ground Mobility in Thailand; Preliminary Survey. Technical Report No. 5-625, Vicksburg, Miss., May 1963, 66 pp, illus, maps, appendixes.
- S226-01-02-XGLVHC U. S. Army Map Service, CE, The Military Geography of Southeast Asia and Australasia. Engineer Intelligence Survey 85-56, Washington, D. C., May 1957, 20 pp, illus, maps.
- S227-01-02-XO U. S. Army Military Attaché, Thailand, Availability of Basic Construction Materials in Thailand. Bangkok, Thailand, June 4, 1956, 1 p.
- DIA/DL  
EIF  
275016

This report locates sources of sand, gravel, rock, and timber with respect to existing transportation (road, railroad, or waterway) and appraises reserves and quality for construction. Materials available in the five sections of the country are: timber in the north, all materials in the central section, sand, gravel, and timber in the eastern section, sand and timber in the north-east, and timber in the south.

- S228-01-05-XO U. S. Army Military Attaché, Thailand, Ground Water Investigations, Thailand. Report No. R-417-57, September 5, 1957, 2 pp.
- DIA/DL  
EIF  
304,871

Complete report not available for review.

- S229-01-02-XCLVH U. S. Army Quartermaster General, Research and Development Division, Environment of Southeast Asia. Environment Protection Division Report No. 219, Natick, Mass., August 1953, 45 pp, illus, maps.
- S230-01-02-XO U. S. Bureau of Mines Mineral Trade Notes. Various volumes, various numbers, Washington, D. C., various dates, various pages (issued monthly, six issues per volume).
- USGS  
402(200)  
Un34mt

These reports summarize information on current production, operations, exports, etc., of the industry. The coverage is worldwide, and individual items are very brief. In the four volumes covering 1958 and 1960, there are production records or descriptions for deposits of fluorspar, iron, manganese, gypsum, salt, tin, tungsten, and cement in Thailand.

- S231-01-01-XH U. S. Bureau of Reclamation, Aggregate and Concrete Investigation for Bhuriphol Dam - Yankee Project. Concrete Laboratory Report No. C-245, Thailand Royal Irrigation Department, January 2, 1958.

This report presents detailed results of acceptance tests, under an agreement dated August 27, 1952, between the governments of the United States and Thailand, to determine the suitability of sand and coarse aggregate for use in concrete. A limited series of concrete mixtures were tested to determine the effects of different sand gradings and water-cement ratios on the properties of the fresh and hardened concrete proposed for the construction. Several laboratory sand gradation tests, general location maps and topographic map of the damsite, and river hydrographs of the Ping River for a period of 24 years are presented.

S232-02-02-XHGL U. S. Bureau of Reclamation, Report on Yanhee Project, Thailand for Power Irrigation, Flood Control & Navigation. Prepared for the Royal Irrigation Department of Thailand, Denver, Colo., December 1955, two volumes, illus, maps.  
WES  
TC550  
Y3  
Vols.  
1 & 2

S233-01-02-XH U. S. Bureau of Reclamation, Schedule, General Provisions, Specifications, and Drawings, Yanhee Dam and Powerplant, Yanhee Project, Thailand. Prepared for the Thailand Royal Irrigation Department, Ministry of Agriculture, Denver, Colo., June 1957, 220 pp, illus.

S234-01-01-XHC U. S. Bureau of Reclamation, Supporting Data on Construction and Materials for Yanhee Project Report, Thailand. Denver, Colo., 1954.  
AMS  
TC113  
T3U58

S235-01-02-XO U. S. Embassy, Thailand, Annual Minerals Report Thailand 1953. Desp No. 612, Bangkok, Thailand, March 30, 1954, 17 pp.  
DIA/DL  
EIF  
224698

This report gives a brief summary of mineral production, trade prices, operation of mines, labor, and government and international agreement. Tin, wolfram, lignite, iron and steel, lead, antimony, gold, petroleum, salt, cement, and other minerals are discussed.

S236-01-02-XO U. S. Embassy, Thailand, Annual Minerals Report - Thailand - 1954. Desp No. 164, Bangkok, Thailand, September 23, 1955, 14 pp.  
DIA/DL  
EIF  
257339

This report gives a brief summary of mineral production, trade prices, operation of mines, labor, and government and international agreement. Tin, wolfram, lignite, iron and steel, lead, antimony, gold, petroleum, salt, cement, and other minerals are discussed.

S237-01-03-XO U. S. Embassy, Thailand, Mineral Production Statistics - Thailand (1951). Desp No. 679, Bangkok, Thailand, April 16, 1952, 3 pp.  
DIA/DL  
EIF  
178832

Production statistics for 17 mineral commodities. The unit of weight or measure, quantity exported, metal content of ores and concentrates, and value are given when available. Also included is the cubic meters of fuelwood produced during the annual periods of 1937-1950 along with the values for 1946-1950.

S238-01-03-XO U. S. Embassy, Thailand, Mineral Production Statistics Questionnaire - 1959. Desp No. 614, Bangkok, Thailand, April 28, 1960, 2 pp.  
DIA/DL  
EIF  
350919

Soils and Geology, Text

This report contains statistics for antimony, cement, fuelwood, gypsum, ilmenite, iron lead, lignite, magnetite, manganese, monazite, salt, samarskite, tin, tungsten concentrates, mixed tin-tungsten concentrates, equivalent tungsten concentrates in mixed concentrates, zinc, marl, and others which give units of weight or measure, quantity produced, quantity exported, average metal percent for ores and concentrates, and the value.

S239-01-03-X0 U. S. Embassy, Thailand, Mineral Production Statistics Questionnaire - 1960. Desp No. 610, Bangkok, Thailand, May 4, 1961, 3 pp.  
DIA/DL  
EIF  
368,858

This report contains statistics for antimony, cement, fuelwood, gypsum, ilmenite, iron lead, lignite, magnetite, manganese, monazite, salt, samarskite, tin, tungsten concentrates, mixed tin-tungsten concentrates, equivalent tungsten concentrates in mixed concentrates, zinc, marl, and others which give units of weight or measure, quantity produced, quantity exported, average metal percent for ores and concentrates, and the value.

S240-01-02-X0 U. S. Embassy, Thailand, Minerals Report, January-December 1960. Desp No. 580, Bangkok, Thailand, April 21, 1961, 25 pp.  
DIA/DL  
EIF  
368,838

This report summarizes mining activities in both metalliferous and nonmetalliferous resources. Among topics of discussion are production, mining method, governmental and foreign assistance, prices, and trade agreements. Special reports are also given for particular ventures.

S241-01-02-X0 U. S. Embassy, Thailand, Minerals Report, January-June, 19 \_\_\_\_\_. Desp No. \_\_\_\_, Bangkok, Thailand, various dates, various pages. (Issued at six-month intervals, i.e. also for July-December).  
DIA/DL  
EIF's  
304,843  
319,620  
327,381  
336,827  
342,362

These semiannual reports summarize mining activities in both metalliferous and nonmetalliferous resources. Among topics discussed are production, mining methods, governmental and foreign assistance, prices, and trade agreements. Special reports are also given for particular ventures.

The five reports covering the period 1957-June 1959 were examined.

S242-01-05-X0 U. S. Navy Office of Naval Intelligence, Survey of Cement Industry in Siam. Series 46-45, November 2, 1945.

Not available for review.

S243-02-02-XLVHC University of Michigan, Department of Geography, Analysis of Geographic and Climatic Factors in Coastal Southeast Asia. Office of Research Administration Report No.04231-1-F, Ann Arbor, Mich., March 1962, 178 pp, maps. (Prepared under U. S. Army Quartermaster Research and Development Command Contract No. DA-19-129-QM-1655.)

S244-01-03-X0 Vageler, Paul, An Introduction to Tropical Soils. Translated by H. Greene, Macmillan and Co., Limited, London, England, 1933, 240 pp, illus.  
Ohio St.  
Univ  
S593  
V12

This report was intended as a guide for the planter in selection and identification of soils. In addition to a discussion of the problems in tropical pedology, the book includes sections on the relation of parent material to soil fertility; vegetative forms and their contribution to the organic matter; the roles of climate, relief, and vegetation; tropical and subtropical soil formation; and physical and chemical aspects of crop and soil management.

S245-02-02-X0 Viriyananda, Sak, and Supakon, Swang, "Survey and analysis of soils of tobacco fields in North Thailand." Journal of the National Research Council of Thailand, vol 3, No. 2, Bangkok, Thailand (June 1962), pp 99-116, map.

USDA  
330.9  
N2194

This article and map are completely in Thai, with a two page English abstract. The authors define three soils in the tobacco plantations, the Chiang Mai loam, Roi Et fine sandy loam, and Khorat fine sandy loam. The composition, horizons, distribution, texture, chemistry, and suitability for cultivation of each are described. Tabulated data are abundant, but it is in Thai. A map at a scale of 1:400,000 covers 17°N to 20°30'N and 98°30'E to 101°E is included. The distribution of the three soil types is shown in color together with drainage and cultural features. Ten minute coordinates traverse the map.

S246-01-02-X0 Wang, Kung-Ping, "Mineral status of the Far East." Mining Engineering, vol 3, Nos. 11 and 12, New York, N. Y. (November and December 1951), pp 943-948, 1049-1053, illus.

The report presents the broad picture of mineral wealth in the region. Discussions of individual countries supported by tabulated information on reserves and production are brief. The countries include China, Japan, Formosa, Hong Kong, Indochina, Thailand, Burma, Malaya, Indonesia, the Philippines, and British Borneo. Thailand has no indication of possessing major mineral discoveries. Some iron and coal deposits are known. Abundant limestone reserves are available for cement production. Tin and tungsten products are exported. Limited production and reserve statistics along with chemical analysis are included.

S247-01-02-X0 Watson, John, Building Stones. Cambridge University Press, Cambridge, England, 1911, 483 pp.

LC  
TN950  
.W29  
1911

The author gives a rather lengthy introduction to the general aspects of building stones, and then gives the more common building stones from each geologic system, regardless of world location. Approximately half of the book is devoted to a listing of the specimen at the university giving common name, description, source, donor, chemical composition, and weight per cubic foot. In some instances crushing strain per square foot is given.

S248-02-05-X0 Watthonachon, Suwit and La Moreaux, Philip E., "Origin of saline deposits in the Khorat Plateau." n.d., map.

According to oral reports from the authors, this was to be published sometime during 1964 by the Geological Society of America and/or the American Association of Petroleum Geologist. The article was to include detailed geology and groundwater resources, evaluation of water quality, depth of aquifers, location of wells, and recommendations for future drilling. A geologic map at a scale of 1:500,000 was to complete the article. Not available for review.

S249-01-02-X0 Willbourn, E. S., "A general account of the geology of the Malay Peninsula and the surrounding countries, including Burma, the Shan States, Yunnan, Indochina, Siam, Sumatra, Java, Borneo and other islands of the Dutch East Indies." Journal of Royal Asiatic Society, Straits Branch, No. 86, Singapore (November 1922), pp 237-256.

LC  
AS492  
.S6

Soils and Geology, Text and Maps

This general compilation provides a view of stratigraphic and structural history from the Precambrian through the Tertiary. The pre-Tertiary history is considered for the entire region whereas the Tertiary is considered by country.

S250-01-02-XVC Williams, Llewelyn, Thailand Survey of Vegetation. Agricultural Research Service, U. S. Department of Agriculture, unpublished, March 5, 1964, 43 pp, map.

S251-01-04-XO Yoshida, Z., Abstracts of Geological Literature for Countries of the Far East (Except Japan): Japanese Journals, September 1941 to January 1948. 66 pp.

Not available for review.

Maps

S252-03-02-XO Agoos, W. B., and Curtis, C. E., "Reconnaissance profiles," No scale, Thailand Royal Department of Mines, Bangkok, Thailand, 1959.

SEE: Agoos, W. B., and Curtis, C. E., Interpretation; Airborne Magnetometer-Scintillation Counter Survey in Chiang Khan-Loei, Nakhon Sawan, Chachoengsao Areas of Thailand. Thailand Royal Department of Mines, Bangkok, Thailand, 1959, 141 pp, illus, maps.

S253-03-02-XO Agoos, W. B., and Curtis, C. E., "Total magnetic intensity Chachoengsao area." No scale, Thailand Royal Department of Mines, Bangkok, Thailand, 1959.

SEE: Agoos, W. B., and Curtis, C. E., Interpretation; Airborne Magnetometer-Scintillation Counter Survey in Chiang Khan-Loei, Nakhon Sawan, Chachoengsao Areas of Thailand. Thailand Royal Department of Mines, Bangkok, Thailand, 1959, 141 pp, illus, maps.

S254-03-02-XO Agoos, W. B., and Curtis, C. E., "Total magnetic intensity Chiang Khan-Loei area." No scale, Thailand Royal Department of Mines, Bangkok, Thailand, 1959.

SEE: Agoos, W. B., and Curtis, C. E., Interpretation; Airborne Magnetometer-Scintillation Counter Survey in Chiang Khan-Loei, Nakhon Sawan, Chachoengsao Areas of Thailand. Thailand Royal Department of Mines, Bangkok, Thailand, 1959, 141 pp, illus, maps.

S255-03-02-XO Agoos, W. B., and Curtis, C. E., "Total magnetic intensity Nakhon Sawan area." No scale, Thailand Royal Department of Mines, Bangkok, Thailand, 1959.

SEE: Agoos, W. B., and Curtis, C. E., Interpretation; Airborne Magnetometer-Scintillation Counter Survey in Chiang Khan-Loei, Nakhon Sawan, Chachoengsao Areas of Thailand. Thailand Royal Department of Mines, Bangkok, Thailand, 1959, 141 pp, illus, maps.

S256-03-02-XO Alexander, Joseph P., "Thai-Malay Peninsula geological map." 1:5,500,000, Malaya Geological Survey, Kuala Lumpur, Malaya, 1958.

SEE: Alexander, Joseph P., "A short outline of the geology of Malaya with special reference to Mesozoic orogeny." The Crust of the Pacific Basin, American Geophysical Union Monograph No. 6, Washington, D. C., 1962, pp 81-86, maps.



- 8257-03-02-X0 Alexander, Joseph P., "Thai-Malay Peninsula tectonic map." 1:5,500,000, Malaya Geological Survey, Kuala Lumpur, Malaya, 1958.
- SEE: Alexander, Joseph P., "A short outline of the geology of Malaya with special reference to Mesozoic orogeny." The Crust of the Pacific Basin, American Geophysical Union Monograph No. 6, Washington, D. C., 1962, pp 81-86, maps.
- 8258-03-02-X0 Brown, Glen F., et.al., "Distribution of mining concessions and granite bodies in Southern Thailand." 1:2,000,000, plate no. 14, U. S. Geological Survey, Washington, D. C., 1951.
- AMS/ML  
5L-2-7.40  
90200-2.000
- SEE: Brown, Glen F.; Buravas, Saman; Charaljavanaphet, Junchet; Jalichandra, Nitipat; Johnston, William D., Jr.; Sresthaputra, Vija; and Taylor, George C., Jr.; Geologic Reconnaissance of the Mineral Deposits of Thailand. U. S. Geological Survey Bulletin 984, Washington, D. C., 1951, 183 pp, illus, map.
- 8259-03-02-XL Brown, Glen F., and Jalichandra, Nitipat, "Geologic sketch map of the Mae Lama tungsten lode and adjacent leases, Mae Sariang District, Changwat Mae Hong Son." 1:4,000, plate no. 9, U. S. Geological Survey, Washington, D. C., 1951.
- SEE: Brown, Glen F.; Buravas, Saman; Charaljavanaphet, Junchet; Jalichandra, Nitipat; Johnston, William D., Jr.; Sresthaputra, Vija; and Taylor, George C., Jr.; Geologic Reconnaissance of the Mineral Deposits of Thailand. U. S. Geological Survey Bulletin 984, Washington, D. C., 1951, 183 pp, illus, maps.
- 8260-03-02-XL Brown, Glen F., and Jalichandra, Nitipat, "Geologic sketch map of the Mae Sariang tungsten district, Changwat Mae Hong Son." 1:20,000, plate no. 8, U. S. Geological Survey, Washington, D. C., 1951.
- AMS/ML  
5L-2-14.00-  
90200-20
- SEE: Brown, Glen F.; Buravas, Saman; Charaljavanaphet, Junchet; Jalichandra, Nitipat; Johnston, William D., Jr.; Sresthaputra, Vija, and Taylor, George C., Jr.; Geological Reconnaissance of the Mineral Deposits in Thailand. U. S. Geological Survey Bulletin 984, Washington, D. C., 1951, 183 pp, illus, maps.
- 8261-03-02-X0 Brown, Glen F.; Jalichandra, Nitipat; and Taylor, George C., Jr.; "Geologic sketch map of the Mae Fang Basin, Changwat Chiang Mai." 1:150,000, plate no. 20, U. S. Geological Survey, Washington, D. C., 1951.
- AMS/ML  
5L-2-14.00  
90200-150
- SEE: Brown, Glen F.; Buravas, Saman; Charaljavanaphet, Junchet; Jalichandra, Nitipat; Johnston, William D., Jr.; Sresthaputra, Vija; and Taylor, George C., Jr.; Geologic Reconnaissance of the Mineral Deposits of Thailand. U. S. Geological Survey Bulletin 984, Washington, D. C., 1951, 183 pp, illus, maps.
- 8262-03-02-XL Brown, Glen F.; Pitakpraiwan, Kasetr; and Phitnum, Sangop Kano; "Reconnaissance geologic map of the Hong Phai lead-zinc area, Changwat Kanchanaburi." 1:7,500, plate no. 6, U. S. Geological Survey, Washington, D. C., 1951.
- AMS/ML  
5L-2-14.00-90200-7

SEE: Brown, Glen F.; Buravas, Saman; Charaljavanaphet, Junchet; Jalichandra, Nitipat; Johnston, William D., Jr.; Sresthaputra, Vija; and Taylor, George C., Jr.; Geological Reconnaissance of the Mineral Deposits in Thailand. U. S. Geological Survey Bulletin 984, Washington, D. C., 1951, 183 pp, illus, maps.

S263-03-02-X0

Brown, Glen F.; Sresthaputra, Vija; and Johnston, William D., Jr.; "Geologic section along a crosscut at Pilok tungsten mine, Pilok District." 1:60, plate no. 11, U. S. Geological Survey, Washington, D. C., 1951.

SEE: Brown, Glen F.; Buravas, Saman; Charaljavanaphet, Junchet; Jalichandra, Nitipat; Johnston, William D., Jr.; Sresthaputra, Vija; and Taylor, George C. Jr.; Geologic Reconnaissance of the Mineral Deposits of Thailand. U. S. Geological Survey Bulletin 984, Washington, D. C., 1951, 183 pp, illus, maps.

S264-03-02-X0

Brown, Glen F., Sudasna, P., and Chainarong, Su Bun, "Geologic sketch map of Khao Mai tungsten-tin mine, Pilok District." 1:400, plate no. 12, U. S. Geological Survey, Washington, D. C., 1951.

SEE: Brown, Glen F.; Buravas, Saman; Charaljavanaphet, Junchet; Jalichandra, Nitipat; Johnston, William D., Jr.; Sresthaputra, Vija; and Taylor, George C., Jr.; Geologic Reconnaissance of the Mineral Deposits of Thailand. U. S. Geological Survey Bulletin 984, Washington, D. C., 1951, 183 pp, illus, maps.

S265-03-02-X0

Brown, Glen F., and Taylor, George C., Jr., "Sketch of geologic plan and section of the Chon tin mine, Changwat Phangnga." 1:150, plate no. 15, U. S. Geological Survey, Washington, D. C., 1951.

SEE: Brown, Glen F.; Buravas, Saman; Charaljavanaphet, Junchet; Jalichandra, Nitipat; Johnston, William D., Jr.; Sresthaputra, Vija; and Taylor, George C., Jr.; Geologic Reconnaissance of the Mineral Deposits of Thailand. U. S. Geological Survey Bulletin 984, Washington, D. C., 1951, 183 pp, illus, maps.

S266-03-02-X0

Buravas, Saman; Kamalarnchun, Phumawarn; Aranyakanon, Phayon; and Korn, Boourod Sukhonthani; "Geologic map of the Mae Sot area, Changwat Tak." 1:150,000, plate no. 19, U. S. Geological Survey, Washington, D. C., 1951.

SEE: Brown, Glen F.; Buravas, Saman; Charaljavanaphet, Junchet; Jalichandra, Nitipat; Johnston, William D., Jr.; Sresthaputra, Vija; and Taylor, George C., Jr.; Geologic Reconnaissance of the Mineral Deposits of Thailand. U. S. Geological Survey Bulletin 984, Washington, D. C., 1951, 183 pp, illus, maps.

S267-03-02-X0

Daniel, Mann, Johnson, and Mendenhall, International, "Provisional geologic map, Northeast Plateau of Thailand." 1:1,000,000, Bangkok, Thailand, July 1961.

SEE: Daniel, Mann, Johnson, and Mendenhall, International, Ground Water Exploration of the Khorat Plateau, Final Report. Wat Areekul Press, Bangkok, Thailand, July 1961, 41 pp, illus, maps.

S266-03-02-XGV Great Britain Foreign Office, "Siam minerals." 1:5,500,000, London, England, 1945.

SEE: Great Britain Foreign Office, Siam Basic Handbook, London, England, 1945, 147 pp. maps, in the general section of this bibliography.

S269-03-02-XL

Great Britain Interservice Topographic Department, "Indo-China and Siam."

CIA/XL

1:1,000,000, Great Britain War Office, London, England, 1945.

H500-22, 24410

The four sheets of this geologic map are in color and cover Thailand north of 12°N and east to 102°E and Indochina. Only the sheets covering Thailand and Indochina south of 19°20'N were examined in this survey. Map units are alluvium, basin beds, sandstone, shale-limestone, shale, and igneous rock with minor variations among the three sheets. Each of these is described in regard to age, rock types, physical characteristics, structure and occurrence, terrain, derived soils, water prospects, and economic importance. The base map shows drainage, roads, towns, and spot elevations and has 1-deg coordinates. Sources of information are included in the individual maps.

S270-03-05-XO

Great Britain War Office, "Kra Isthmus geology showing distribution of rock types." 1:1,000,000, 1944.

Not available for review.

S271-03-02-XO

India Geological Survey, Director, "Geological map of Asia and the Far East." U. N. Economic Commission for Asia and the Far East and Commission of the World International Geological Congress, 1:5,000,000, 1959.

This colored map, in six sheets, presents correlations among the gross stratigraphic units distinguished in individual countries as well as provides a picture of the geology of a global portion of the earth's crust.

S272-03-01-XO

India Geological Survey, Strategic Branch, "Geological sketch map of Phuket mainland." 1:253,040, Calcutta, India, 1945.

SEE: India Geological Survey, Strategic Branch, Siam: Phuket Mainland, Technical Note No. 30, Calcutta, India, 1945, 14 pp, illus, map.

S273-03-01-XO

India Geological Survey, Strategic Branch, "Photo-geological map of Phuket Island (northern end)." 1:25,000, Calcutta, India, 1945.

SEE: India Geological Survey, Strategic Branch, Siam: Phuket Island, Technical Note No. 30, Calcutta, India, 1945, 9 pp, illus, maps.

S274-03-02-XO

India Geological Survey, Strategic branch, "Phuket Island photo-geological map." 1:100,000 (approx), Calcutta, India, 1945.

SEE: India Geological Survey, Strategic branch, Siam: Phuket Island, Technical Note No. 30, Calcutta, India, 1945, 9 pp, illus, maps.

S275-03-02-XL

Ivanova, M. A., editor, "Indochina." 1:4,000,000, USSR State Geographical Literature Press, Moscow, Russia, 1959.

S.76-3-02-X0

CIA/ML  
H003-18  
109657

Kaewtaidhoon, Sangob and Aranyakanon, Payome, "Map of Thailand showing distribution of tin and tungsten deposits and granite areas." 1:5,000,000, Pacific Science Association, Bangkok, Thailand, 1961.

SEE: Kaewtaidhoon, Sangob and Aranyakanon, Payome, "Tin and tungsten deposits of Thailand." Proceedings of 9th Pacific Science Congress, Part 12. Geology and Geophysics, Bangkok, Thailand, 1961, pp 400-404, map.

S.77-03-02-X0

Klompé, Th. H. F., "Geological sketch map of Thailand." 1:8,950,000, American Geophysical Union, Washington, D. C., 1962.

SEE: Klompé, Th. H. F., "Igneous and structural features of Thailand." Crust of the Pacific Basin, American Geophysical Union, Monograph 6, Washington, D. C., 1962, pp 128-134, maps.

S.78-03-02-X0

CIA/ML  
H000-12  
131700

Kovda, V. A., and Loboza, E. V., eds., "Pochvennaya Karta Azii."\* (Soil Map of Asia.), 1:6,000,000, 1960 (In Russian and English).

Twelve colored sheets cover the area between 1°03' and 8°00'N latitude and 35°00'E and 135°00'E longitude. The map shows the distribution of 91 genetic soil types and 112 subtypes, all grouped according to climatic belts. Lateritic crusts, volcanic ash and lava, coral reefs, dune sand, and stoniness are indicated by symbols. Southeast Asia is covered by sheets 7 and 11 and the legend occupies parts of sheets 1, 2, 5, 9, and 10. Units distinguished in Thailand are laterized soils of equatorial rain forests, mountain lateritic soils, tropical soils with iron concretions under monsoon forests and secondary savannas, tropical soils of dry tropical forests and secondary savannas, moderately laterized soils of tropical forests, inundated soils, valley-alluvial tropical soils with local inundated soils, latosol of secondary savannas, and boggy tropical soils.

S.79-03-02-X0

LaMoreaux, Philip E. and others, "Reconnaissance geologic map of the Khorat Plateau." 1:2,000,000, U. S. Geological Survey, Washington, D. C., 1958.

SEE: LaMoreaux, Philip E., et al., Reconnaissance of the Geology and Groundwater of the Khorat Plateau, Thailand. U. S. Geological Survey Water Supply Paper No. 1429, Washington, D. C., 1958, 62 pp, illus, map.

S.80-03-02-X0

Lee, Wallace, M., "Geological map of provinces Payap and Maharastra, Northern Siam." 1:400,000, Thailand Department of State Railways, Bangkok, Thailand, 1923.

SEE: Lee, Wallace, M., Reconnaissance Geological Report of the Districts of Payap and Maharastra, Northern Siam. Thailand Department of State Railways, Bangkok, Thailand, 1923, 16 pp, map.

S.81-03-02-X0

Lee, Wallace M., "Map of the provinces of Phuket, Surashtadhami, Nakon Sridhamaraj, and Patani." 1:500,000, Thailand Department of State Railways, Bangkok, Thailand, August 9, 1923.

SEE: Lee, W. M., Reconnaissance Geological Report of the Province of Phuket, Surashtadhami, Nakon Sridhamaraj, and Patani in Siamese Malaya. Thailand Department of State Railways, Bangkok, Thailand, August 9, 1923, 14 pp, map.

S282-03-02-YL "Map of Thailand showing mineral resources." 1:2,800,000, n.d.

AMS/ML

5L-1-9.00-100-2.800

This map shows the locations of asbestos, barites, diatomite, oil shale, oil sand, lignite, coal, antimony, copper, gold, iron, lead, manganese, molybdenum, tin, wolfram, zinc, gypsum, fluorite, rock salt, and gemstones. The legend differentiates between reported deposits, producing mines, and abandoned mines. Towns, railroads, drainage, and unlabeled contours are shown. The map has 1-deg coordinates.

S283-03-05-XO "Mineral map of Siam." 1:2,100,000, 1949.

Not available for review.

S284-03-02-XO Montrakun, Sarot, and Moormann, F. R., "Huai Si Thon project semi-detailed soil map." 1:19,350  $\pm$  150, Thailand Ministry of Agriculture, Bangkok, Thailand, June 1962.

SEE: Montrakun, Sarot, and Moormann, F. R., "Report on the soil survey of the Huai Si Thon irrigation project." Miscellaneous Soil Reports of the Department of Rice, Department of Agriculture, and the Royal Irrigation Department, No. 5, Thailand Ministry of Agriculture, Bangkok, Thailand, June 1962, 19 pp, illus, map.

S285-03-02-XO Moormann, F. R., "Mae Klong project map showing landforms and associations." 1:250,000, Thailand Ministry of Agriculture, Bangkok, Thailand, May 1962.

SEE: Moormann, F. R., "Report on the preliminary soil survey of the Mae Klong irrigation project area." Miscellaneous Soil Reports of the Royal Irrigation Department, Department of Agriculture, and the Department of Rice, No. 1, Thailand Ministry of Agriculture, Bangkok, Thailand, May 1962, 27 pp, illus, maps.

S286-03-02-XO Panichapong, Samarn, Moormann, F. R., and Soil Survey Staff, "Soils maps of villages and surroundings of the nutrition project (Ubon Province)." 1:20,000, Thailand Ministry of Agriculture, Bangkok, Thailand, August 1962.

SEE: Panichapong, Samarn, Moormann, F. R., and Soil Survey Staff, "Report on the soil survey of 10 villages in Changwat Ubon." Miscellaneous Soil Reports of the Department of Agriculture, Department of Rice, and the Royal Irrigation Department, No. 7, Thailand Ministry of Agriculture, Bangkok, Thailand, August 1962, 20 pp, illus, maps.

S287-03-02-XO Pendleton, Robert Larimore, "Provisional map of the soils and surface rocks in the watershed of the Chao Phya and tributaries." Thailand Royal Irrigation Department, Bangkok, Thailand, 1:2,500,000, 1949.

CIA/ML  
H503-22  
7604c

This is a portion of Pendleton's, "Provisional map of soils and surface rocks of the Kingdom of Thailand."

# Soils and Geology, Maps

S288-03-02-X0

AMS/ML

5L-1-13.0-

36317-

2.500

Pendleton, Robert Larimore, "Provisional map of the soils and surface rocks of the Kingdom of Thailand." Thailand Cadastral Survey Office, Bangkok, Thailand, 1:2,500,000, 1949.

Soils data, where available, and estimates of soils data in those parts of the kingdom which have not been visited are assembled in this map. The estimations where necessary are based on petrographical, geological, and botanical data. After each of the 21 units in the legend, the distinguishing characteristics and environment are summarized in a few words, e.g. Chantimul clays: red, friable, deep, from igneous rocks.

S289-03-02-X0

CIA/ML

H503-22

137640

Pendleton, Robert Larimore, "Provisional map of the soils and surface rocks of the Kingdom of Thailand." Thailand Royal Survey Department, Bangkok, Thailand, 1:1,000,000, September 1961. (Revision by Thailand Department of Rice, Technical Division.)

This colored map is in three sheets with the AMS series 1301 as a base. Revisions to the 1949 edition of the author's map are very slight and the identical legend is used. Twenty-one soil units are shown in the map. An advantage of the revised map is that the soils information is presented in topographic sheets which aid in determining the topography associated with each of the soil types.

S290-03-02-X0

CIA/ML

H503-22

138004

139419

Pendleton, Robert Larimore and Montrakin, Sarot, "Provisional soil map of the Kingdom of Thailand." 1:3,850,000 (approx), Thailand Department of Rice, Ministry of Agriculture, Bangkok, Thailand, 1960.

SEE: Pendleton, Robert L. and Montrakin, Sarot, The Soils of Thailand, Technical Bulletin, Thailand Department of Rice, Ministry of Agriculture, Bangkok, Thailand, 1960, 22 pp, map.

S291-03-02-X0

AMS/ML

5L-51-14.00

4000-300

Phitai, Sa-ngot Kaew; bunnay, Din; and Isianghool, Panee; "Geologic map of Phuket Island, Thailand." 1:300,000, plate no. 17, U. S. Geological Survey, Washington, D. C., 1961.

SEE: Brown, Glen F.; Burau, J. Daniel; Chara-Javanaphet, Jui-het; Jalichandra, Nitipati; Johnston, William D., Jr.; Oresthaputra, Vija; and Taylor, George C., Jr.; Geologic Reconnaissance of the Mineral Deposits of Thailand. U. S. Geological Survey Bulletin 124, Washington, D. C., 1961, 183 pp, illus, maps.

S292-03-02-X0

Pornvisek, Vira, Moormann, F. R., and Montrakin, Sarot, "Lan Pao Irrigation project soil map." 1:100,000, Thailand Ministry of Agriculture, Bangkok, Thailand, February 1961.

SEE: Pornvisek, Vira, Moormann, F. R., and Montrakin, Sarot, "Detailed reconnaissance soil survey of the Lan Pao Irrigation project (Kasat Province)." Miscellaneous Soil Reports of the Royal Irrigation Department, Department of Agriculture, and the Department of Rice, No. 10, Thailand Ministry of Agriculture, Bangkok, Thailand, February 1961, 29 pp, illus, maps.

- S293-03-02-X0 Poomvises, Viro, Moormann, F. R., Ratanaprayura, Chalermthep, and Montrakun, Sarot, "Mae Taeng irrigation project soil map (detailed reconnaissance)." 1:50,000, Thailand Ministry of National Development, Bangkok, Thailand, April 1963.
- SEE: Poomvises, Vira, Moormann, F. R., Ratanaprayura, Chalermthep, and Montrakun, Sarot, "Detailed reconnaissance soil survey of the Mae Taeng irrigation project (Chiang Mai Province)." Miscellaneous Soil Reports of the Department of Agriculture, Department of Rice, and the Royal Irrigation Department, No. 14. Thailand Ministry of National Development, Bangkok, Thailand, April 1963, 18 pp, illus, maps.
- S294-03-05-X0 "Siam resources." 1:2,500,000, 1934.
- Not available for review.
- S295-03-02-X0 Siam Royal Department of Lands and Mines, "Map of the Kingdom of Siam, geological map." 1:2,500,000, Bangkok, Siam, 1940.
- SEE: Siam Royal Department of Lands and Mines, The Mineral Wealth of Thailand, Bangkok, Siam, 1940, 175 pp, map.
- S296-03-02-X0 Snitwongs, Prompan, "Detailed soil map of the area of Tha Phra Agricultural Station." 1:10,000 (approx), Thailand Ministry of Agriculture, Bangkok, Thailand, June 1963.
- SEE: Snitwongs, Prompan, "Report on the soil survey of Tha Phra Agricultural Station and surroundings (Khon Kaen Province)." Miscellaneous Soil Reports of the Department of Agriculture, Department of Rice, and the Royal Irrigation Department, No. 15, Thailand Ministry of Agriculture, Bangkok, Thailand, June 1963, 8 pp, illus, maps.
- S297-03-02-XL AMS/ML  
5L-2-14.00  
90200-2. Sresthaputra, Vija and Charaljavanaphet, Junchet, "Geologic sketch map of the Pilok tungsten mine. Pilok District." 1:2,000, plate no. 10, U. S. Geological Survey, Washington, D. C., 1951.
- SEE: Brown, Glen F.; Buravas, Saman; Charaljavanaphet, Junchet; Jalichandra, Nitipat; Johnston, William D., Jr.; Sresthaputra, Vija; and Taylor, George C., Jr.; Geologic Reconnaissance of the Mineral Deposits of Thailand. U. S. Geological Survey Bulletin 984, Washington, D. C., 1951, 183 pp, illus, maps.
- S298-03-02-X0 Sresthaputra, Vija; Charaljavanaphet, Junchet; and Taylor, George C., Jr.; "Sketch map of the Chenkit tin mines, Changwat Surav Thani." 1:4,620, plate no. 16, U. S. Geological Survey, Washington, D. C., 1951.
- SEE: Brown, Glen F.; Buravas, Saman; Charaljavanaphet, Junchet; Jalichandra, Nitipat; Johnston, William D., Jr.; Sresthaputra, Vija; and Taylor, George C., Jr.; Geologic Reconnaissance of the Mineral Deposits of Thailand. U. S. Geological Survey Bulletin 984, Washington, D. C., 1951.
- S299-03-02-CO Sresthaputra, Vija and Johnston, William D., Jr., "Sketch map of the Pinyok-Labu tin area, Changwat Yola." 1:65,000, plate no. 18, U. S. Geological Survey, Washington, D. C., 1951.

SEE: Brown, Glen F.; Buravas, Saman; Charaljavanaphet, Jumchet; Jalichandra, Nitipat; Johnston, William D., Jr.; Sresthaputra, Vija; and Taylor, George C., Jr.: Geologic Reconnaissance of the Mineral Deposits of Thailand. U. S. Geological Survey Bulletin 984, Washington, D. C., 1951, 183 pp, illus, maps.

SF00-03-02-XI Taylor, George C., Jr. and Buravas, Saman, "Geologic map and section of the Kai Thi Point manganese deposits, Ko Kram, Changwat Chon Buri." 1:4,000, plate no. 7, U. S. Geological Survey, Washington, D. C., 1951.

SEE: Brown, Glen F.; Buravas, Saman; Charaljavanaphet, Jumchet; Jalichandra, Nitipat; Johnston, William D., Jr.; Sresthaputra, Vija; and Taylor, George C., Jr.: Geological Reconnaissance of the Mineral Deposits in Thailand. U. S. Geological Survey Bulletin 984, Washington, D. C., 1951, 183 pp, illus, maps.

SF01-03-02-00 Thailand Ministry of Industry, "Siam economic map showing location of economic mineral deposits." 1:2,500,000, 1950.

CIA/ML  
H503-18  
7574

This map locates sources of asbestos, barytes, diatomite, oil shale, oil sand, coal, precious stone, antimony, copper, gold, iron, lead, manganese, molybdenum, tin, wolfram, zinc, and pyrite. Areas being exploited and not fully studied are differentiated. Larger towns, major drainage, and communication routes are also shown. The map has 1-deg coordinates.

SF02-03-02-X0 Thailand Royal Department of Mines, Geological Survey, "Geological map of northeast Thailand showing boreholes." 1:1,495,000, 1956.

CIA/ML  
H503-22  
107101-R

The map shows the distribution of formations and the strike and dip (no quantitative values) direction of beds. Tentative locations of 1500- to 300-ft test wells are also indicated and 19 logs are included with the map.

SF03-03-02-X0 Thailand Royal Department of Mines, Geologic Staff, "Reconnaissance geologic map of Thailand." 1:2,500,000, plate no. 5, U. S. Geological Survey, Washington, D. C., 1951.

AIS/ML  
SL-1-14,00-  
90200-2,500

SEE: Brown, Glen F.; Buravas, Saman; Charaljavanaphet, Jumchet; Jalichandra, Nitipat; Johnston, William D., Jr.; Sresthaputra, Vija; and Taylor, George C., Jr.: Geological Reconnaissance of the Mineral Deposits in Thailand. U. S. Geological Survey Bulletin 984, Washington, D. C., 1951, 183 pp, illus, maps.

SF04-03-02-XV Thailand Royal Department of Mines, Geological Survey, "Resources map of Siam." 1:2,500,000, Bangkok, Thailand, 1934.

CIA/ML  
H503-18  
66E74-R

A penciled translation of the legend in the copy examined indicates that the map shows the locations of deposits of gold, copper, silver, gemstones, tin, antimony, tungsten, iron, lead, coal, and oil. The extent of cultivated land, teak forests, dense jungle, and scattered woods is also shown.



S305-03-02-XV Thailand Royal Department of Mines, "Map of Thailand showing mineral resources protected and reserved forests." 1:2,500,000, Bangkok, Thailand, July 1957.  
 AMS/ML  
 5L-1-9.00-  
 36328

This map shows extensive areas of reserved forest and scattered mineral deposits. The generalized vegetative information may have some use in environment studies.

S306-03-02-X0 Thailand Royal Irrigation Department, "Geologic map along Mae Ping River." 1:200,000, Bangkok, Thailand, July 16, 1952.

SEE: Thailand Royal Irrigation Department, The Yan-Hee Hydro-Electric Multipurpose Project, Thailand, Bangkok, Thailand, January 1953, 253 pp, illus, maps.

S307-03-02-X0 Thailand Royal Irrigation Department, "Geologic section between Wang Kha-Chow and Yanhee." 1:10,000, Bangkok, Thailand, July 15, 1952.

SEE: Thailand Royal Irrigation Department, The Yan-Hee Hydro-Electric Multipurpose Project, Thailand, Bangkok, Thailand, January 1953, 253 pp, illus, maps.

S308-03-02-C0 Thailand Royal Irrigation Department, "Location of proposed damsite." 1:10,000, Bangkok, Thailand, n.d.

SEE: Thailand Royal Irrigation Department, The Yan-Hee Hydro-Electric Multipurpose Project, Thailand, Bangkok, Thailand, January 1953, 253 pp, illus, maps.

S309-03-02-C0 Thailand Royal Survey Department, "Mineral resources of Thailand." 1:1,000,000, Bangkok, Thailand, 1961.

AMS  
 5L-1-9.00-  
 36328-1.000

The locations of deposits and producing mines and abandoned mines are given for asbestos, borite, diatomite, oil shale and sand, lignite and coal, antimony, copper, gold, iron, lead, manganese, molybdenum, tin, wolfram, zinc, gypsum, fluorite, rock salt, and gemstones.

S310-03-02-X0 Thailand Soil Survey Division, "Soil and land units of the Kaho Tao area." 1:4,000, Thailand Ministry of National Development, Bangkok, Thailand, January 1964.

SEE: Thailand Soil Survey Division, "Note on the soil survey of the Khao Tao area." Soil Survey Reports of the Land Development Department, No. 17, Bangkok, Thailand, January 1964 (provisional edition), 11 pp, illus, maps.

S311-03-02-X0 Thongchuta, Tanit, and Nonthabund, Somnug, "Changwat Roi Et pilot survey semi-detailed soil map." 1:20,000 (approx), Thailand Ministry of Agriculture, Bangkok, Thailand, March 1963.

SEE: Thongchuta, Tanit, and Nonthabund, Somnug, "Report on the soil survey of a pilot area in Changwat Roi Et." Miscellaneous Soil Reports of the Department of Agriculture, Department of Rice, and the Royal Irrigation Department, No. 13, Thailand Ministry of Agriculture, Bangkok, Thailand, March 1963, 11 pp, illus, maps.

- S312-03-02-X0      Thongchuta, Tanit, and Nonthabund, Somnug, "Detailed soil map of the Ban Si Than area (Khon Kaen Province)." 1:10,000 + 150, Thailand Ministry of Agriculture, Bangkok, Thailand, January, 1963.
- SEE: Thongchuta, Tanit, and Nonthabund, Somnug, "Report on the soil survey in the Ban Si Than area (Khon Kaen Province)." Miscellaneous Soil Report of the Department of Agriculture, Department of Rice, and the Royal Irrigation Department, No. 11, Thailand Ministry of Agriculture, Bangkok, Thailand, January 1963, 11 pp, illus, maps.
- S313-03-02-X0      Thongchuta, Tanit; Nonthabund, Somnug; and Moormann, F. R.; "Semi-detailed soil map of the Nam Phong agriculture centre site." 1:19,000 + 250, Thailand Ministry of Agriculture, Bangkok, Thailand, December 1962.
- SEE: Thongchuta, Tanit; Nonthabund, Somnug; and Moormann, F. R.; "Report on the soil survey of the site of the proposed agriculture centre near Satani Nam Phong (Khon Kaen Province)." Miscellaneous Soil Reports of the Department of Agriculture, Department of Rice, and the Royal Irrigation Department, No. 10, Thailand Ministry of Agriculture, Bangkok, Thailand, December 1962, 17 pp, illus, maps.
- S314-03-02-X0      United Nations, Economic Commission for Asia and The Far East, "Basin map of Southeast Asia and Australia." 1:20,000,000, Hong Kong, 1959.
- SEE: United Nations Economic Commission for Asia and the Far East, Proceedings of the Symposium on the Development of Petroleum Resources of Asia and the Far East, Annex to. Mineral Resources Development Series No. 10 (Annex), E/CN.11/507(Annex), Hong Kong, August 1959, 73 pp.
- S315 03-02-X0      United Nations Economic Commission for Asia and the Far East, "Map of Thailand showing principal coal and iron deposits and sketch geological maps." 1:3,700,000, Bangkok, Thailand, 1952.
- SEE: United Nations Economic Commission for Asia and the Far East, Coal and Iron Resources of Asia and the Far East. ST/ECAFE/5, Bangkok, Thailand, July 1952, 155 pp, maps.
- S316-03-02-X0      United Nations Economic Commission for Asia and the Far East, "Preliminary geological map of Thailand, 1950." 1:5,780,000, Bangkok, Thailand, 1952.
- SEE: United Nations Economic Commission for Asia and the Far East, Coal and Iron Resources of Asia and the Far East. ST/ECAFE/5, Bangkok, Thailand, July 1952, 155 pp, maps.
- S317-03-02-X0      United Nations Economic Commission for Asia and the Far East, Committee on Industry and Trade, "Map of Thailand showing known kaolin resources and other clays and some raw minerals used in the ceramic industry." 1:4,000,000, New York, N. Y., 1953.
- CIA/ML  
H503-27  
81898

SEE: United Nations Economic Commission for Asia and the Far East, Committee on Industry and Trade, Activities in the Field of Mineral Resources Development, Annex C, Kaolin Resources of the Region, New York, N. Y., 1953, 81 pp, maps.

S318-03-05-XO United Nations Soil Foundation, "A general soil map of the Mekong Basin, covering parts of Cambodia, Laos, and Thailand." No scale, n.d.

This map, prepared by the Food and Agriculture Organization technicians, was supposedly completed early in 1961, but could not be located. Not available for review.

S319-03-02-XO U. S. Air Force Cambridge Research Center, Interpretation of Ground Moisture Classes in Terms of Soil Tractionability. Research and Development Command, CRHG Task No. 76471, July 15, 1954, 7 pp, maps.

DIA/DL  
EIF  
262997

Average ground moisture conditions by months are shown in a series of 1:5,000,000 maps of Southeast Asia. Classes are wet, very moist, moist, dry, and very dry. The maps are based on a straight-line relation between climate and average soil moisture. This does not take into account naturally swampy areas.

S320-02-02-XCL U. S. Army Air Forces, Headquarters, "Soil trafficability map." 1:2,640,000, Washington, D. C., December 1943.

SEE: U. S. Army Air Forces, Headquarters, Climate of Bangkok (Thailand). General Climatic Information Guide No. 75, Washington, D. C., December 1943, 4 pp, maps.

S321-03-02-XLVC U. S. Army Service Forces, Headquarters, Atlas of World Maps. Army Specialized Training Program, Army Services Forces Manual M-101, Washington, D. C., November 1943, 13 pp, 30 plates.

S322-03-02-XO U. S. Bureau of Reclamation, "Yanhee Dam and Power Plant geology and location of exploration." 1:2915, Denver, Colo., August 31, 1955.

SEE: U. S. Bureau of Reclamation, Report on Yanhee Project, Thailand for Power, Irrigation, Flood Control & Navigation. Prepared for the Royal Irrigation Department of Thailand, Denver, Colo., December 1955, two volumes, illus, maps.

S323-03-02-XO U. S. Bureau of Reclamation, "Yanhee Dam site geologic map." 1:2400, Denver, Colo., November 1, 1954.

SEE: U. S. Bureau of Reclamation, Report on Yanhee Project, Thailand for Power, Irrigation, Flood Control & Navigation. Prepared for the Royal Irrigation Department of Thailand, Denver, Colo., December 1955, two volumes, illus, maps.

S324-03-02-XO U. S. Bureau of Reclamation, "Yanhee Dam site geologic sections along axis and downstream toe." 1:3947, Denver, Colo., September 23, 1955.

SEE: U. S. Bureau of Reclamation, Report on Yanhee Project, Thailand for Power, Irrigation, Flood Control & Navigation. Prepared for the Royal Irrigation Department of Thailand, Denver, Colo., December 1955, two volumes, illus, maps.

Soils and Geology, Maps

- S325-03-02-X0 U. S. Bureau of Reclamation, "Yanhee Dam site geologic sections D-D and E-E." 1:1060, Denver, Colo., November 1954.
- SEE: U. S. Bureau of Reclamation, Report on Yanhee Project, Thailand for Power, Irrigation, Flood Control & Navigation. Prepared for the Royal Irrigation Department of Thailand, Denver, Colo., December 1955, two volumes, illus, maps.
- S326-03-02-X0 U. S. Bureau of Reclamation, "Yanhee Dam site geologic sections F-F and G-G." 1:955, Denver, Colo., November 1954.
- SEE: U. S. Bureau of Reclamation, Report on Yanhee Project, Thailand for Power, Irrigation, Flood Control & Navigation. Prepared for the Royal Irrigation Department of Thailand, Denver, Colo., December 1955, two volumes, illus, maps.
- S327-03-02-X0 U. S. Bureau of Reclamation, "Yanhee Dam site geologic sections J-J and H-H." 1:2380, Denver, Colo., November 1954.
- SEE: U. S. Bureau of Reclamation, Report on Yanhee Project, Thailand for Power, Irrigation, Flood Control & Navigation. Prepared for the Royal Irrigation Department of Thailand, Denver, Colo., December 1955, two volumes, illus, maps.
- S328-03-02-X0 U. S. Bureau of Reclamation, "Yanhee reservoir geology." 1:393,700, Denver, Colo., November 1954.
- SEE: U. S. Bureau of Reclamation, Report on Yanhee Project, Thailand for Power, Irrigation, Flood Control & Navigation. Prepared for the Royal Irrigation Department of Thailand, Denver, Colo., December 1955, two volumes, illus, maps.
- S329-03-03-X0 U. S. Department of State, Division of Map Intelligence and Cartography,  
AMS "Siam tin industry."\* Map No. 10463, 1:1,590,000, Washington, D. C.,  
5L-2-7.10- July 1946.  
90553-1.590
- The map shows the locations of foreign-owned mines and native mining operations south of Chumphon. Information on foreign concessionaires and their methods and on the number of native operations in each province is provided. Political boundaries, communication routes, drainage, and towns are included and the map has 1-deg tick coordinates.
- S330-03-02-X0 University of Michigan, Department of Geography, "Coastal Southeast Asia generalized soil map." 1:14,400,000, Ann Arbor, Mich., March 1962.
- SEE: University of Michigan, Department of Geography, Analysis of Geographic and Climatic Factors in Coastal Southeast Asia. Office of Research Administration Report No. 04231-1-F, Ann Arbor, Mich., March 1962, 178 pp, maps. (Prepared under U. S. Army Quartermaster Research and Development Command Contract No. DA-19-129-QM-1655.)
- S331-03-02-X0 Veeraburus, Manas; Sudasna, P.; and Chainarong, Su Dan; "Geologic sketch map of the I Pu tungsten-tin mine, Pilok District." 1:25,000, plate no. 13, U. S. Geological Survey, Washington, D. C., 1951.
- AMS/ML  
5L-2-14.00  
9200-25
- SEE: Brown, Glen F.; Buravas, Saman; Charalavanaphet, Junchet; Jalichandra, Nitipat; Johnson, William D., Jr.; Sresthaputra, Vija;

\* For official use only.

and Taylor, George C., Jr.; Geologic Reconnaissance of the Mineral Deposits of Thailand. U. S. Geological Survey Bulletin 984, Washington, D. C., 1951, 183 pp, illus, maps.

S332-03-02-X0

Viriyanda, Sak and Supakon, Swang, (Soils of tobacco fields in North Thailand) 1:400,000, National Research Council of Thailand, Bangkok, Thailand, 1962.

SEE: Viriyanda, Sak and Supakon, Swang, "Survey and analysis of soils of tobacco fields in North Thailand." Journal of the National Research Council of Thailand, vol 3, No. 2, Bangkok, Thailand (June 1962), pp 99-116, map.

VEGETATION SECTION

Text

V1-02-01-XLH      Allied Geographical Section, Southwest Pacific Area, Ad Hoc Report, Siam Report No. 10. July 12, 1944, 18 pp.  
DIA/DL  
EIF  
323067

V2-01-02-XGL      Anderson, J. P., "A journey along a part of the Siam-Burma frontier." Journal of Siam Society, vol 18, Part 2, Bangkok, Thailand (1924), pp 111-134, illus, map.

V3-01-02-XHSC      Baker, Vernon W., and Stanley, William R., A Special Review of the Tank Irrigation Program in Northeast Thailand. United States Operation Mission, Bangkok, Thailand, July 7, 1955, 30 pp, illus, maps.

V4-01-02-XO      Banijbatana, Dusit, Brief Note on Forests and Forestry Problems in Thailand. No. R.48, Thailand Royal Forest Department, Bangkok, Thailand, 1962, 7 pp.  
USDA  
99.9  
S113

This report covers a variety of topics: land categories, population, forest types, administration, personnel, production, wood-using industries, forest exploitation, paper consumption, land use, and forestry problems. A large part of the subjects are covered only in an outline form.

V5-01-02-XO      Banijbatana, Dusit, "Mangrove forest in Thailand." Proceedings of the Ninth Pacific Science Conference of the Pacific Science Association 1957, Vol 11, Forest Resources, Bangkok, Thailand (1958), pp 22-34.  
LC  
Q101  
.P28

Mangrove forests provide firewood, timber, tanbark, and charcoal, and serve as an agent for reclaiming land from the sea. The forests, 80 percent of which occur along the western coast of the peninsula, are described according to topography, soil, and climate; composition and formation; and forestry working and regeneration. Recommendations that large areas be leased to private individuals or concerns for reforestation are made because the Forest Department is hampered by lack of personnel and funds. Twenty-four photographs are used as illustrations.

V6-01-03-XO      Barton, Thomas Frank, "Growing rice in Thailand." The Journal of Geography, vol 59, No. 4, Chicago, Ill. (April 1960), pp 153-164, map.  
AMS  
G1  
.B36

This is a semidetalled article concerning rice production and three types of rice cultivation (garden, floating, and upland) to which 12 percent of Thailand's total acreage is devoted.

V7-01-07-XSLHC      Blanchard, Wendell, Thailand, Its People, Its Society, Its Culture. HRAF Press, New Haven, Conn., 1957, 258 pp, maps.

V8-01-01-XS      Boonkird, Sa-ard; Dawson, M. D.; and Stone, E. L., Jr.; "A preliminary study of teak soils and sites in Lampang Province, Thailand, June 1960." Journal of the National Research Council, vol 1, Inaugural No., Bangkok, Thailand (November 1960). pp 27-75.  
USDA  
310.9  
N2194

- V9-01-02-X0 Bourke-Borrows, D. R. S., "General observations on forestry in Siam." International Review of Agriculture, vol 19, Rome, Italy (November 1928), pp 984-985.  
 LC  
 HD1429  
 .A315

This is an abstract of the author's article "General thoughts and observations on forestry in Siam." An annotation of this appears in this bibliography.

- V10-01-02-X0 Bourke-Borrows, D. R. S., "General thoughts and observations on forestry in Siam." The Indian Forester, vol 61, No. 3, Dehra Dun, India (March 1928), pp 141-160.  
 USDA  
 99.8  
 In2

The author gives a general description of the country and forest in the northern, central, western, eastern, and southern portions of Thailand. Geology and topography are touched upon, but types of forest, teak exploitation, and the work of the Thai Forest Department comprise the major portion of the article.

- V11-01-02-XUL Bourke-Borrows, D., "Siam." Journal of the Central Asian Society, vol 15, Part 3, London, England (1928), pp 305-323.

- V12-02-02-XL Bourke-Borrows, D. R. S., "The teak industry of Siam." Technical and Scientific Supplement to the Record, No. 3, Siam Ministry of Commerce and Communications, Bangkok, Siam (October 1927), 52 pp, illus, map.  
 USDA  
 269  
 S114A

This report presents a rather comprehensive study of northern Thailand's teak industry. The area is first described in terms of location, topography, geology, and climate before the technical descriptions are set forth. The forests of the area are described and the Forest Department's role, management and statistical support, and exporting procedures are discussed. A colored map, "Sketch map showing main teak bearing localities in Northern Siam," at a scale of 1:2,000,000 is included. It covers the approximate geographic area of 15°30'N to 20°40'N and 97°15'E to 101°15'E and shows towns, drainage, and teak areas. The map has 1-deg coordinates.

- V13-01-02-XGLSHC Bowring, Sir John, The Kingdom and People of Siam; with a Narrative of the Mission to That Country in 1855. 2 volumes, John W. Parker and Son, London, England, 1857, 482 and 446 pp, illus, map.

BRITISH

SEE: Great Britain

- V14-01-03-XLM Burton, Robert E., "The rice tillers of Thailand." Pacific Discovery, vol 13, No. 5, Berkeley, Calif. (September-October 1960), pp 4-15, map.

This article concerns the history and methods of growing rice in Thailand. The fact that the leaves are usually 12 to 18 in. high and that the Chao Phraya reaches its flood stage in August, September, and October is of interest.

- V15-01-04-X0 Cokerell, G. D. A., "The flora of Doi Sutep, Siam." Terrays, vol 22, No. 6, Menasha, Wis. (November-December 1929), pp 159-167.

LC DA  
 JK 456  
 .T45 Toj

This brief article gives some of the more common species located on the mountain. The primary purpose of the trip was insect collection, of which nothing is written, and the plants



collected were obtained for beauty or curiosity rather than a systematic sampling.

V16-01-02-XS Corbet, Alexander Steven, Biological Process in Tropical Soils with Special Reference to Malaysia. W. Heffer & Sons, Limited, Cambridge, England, 1935, 156 pp, illus.

V17-01-02-XGIC Corner, Julia, China: Pictorial, Descriptive, and Historical with Some Account of Ava and the Burmese, Siam, and Annam. Henry G. Bohn, London, England, 1853, 521 pp, illus, map.

V18-01-02-XO Craib, B., "The flora and vegetation of Siam." Mid-Pacific Magazine, vol 41, No. 4, Honolulu, Hawaii (April 1931), pp 329-335.  
LC  
DUI  
.M6

This article places emphasis on Bangkok flora but does touch briefly on that of the remainder of the country. The plants are not tabulated but discussed in normal written fashion mentioning habit, specie name, description, and general location.

V19-01-01-XO Craib, William G., Contributions to the Flora of Siam, Dicotyledones.  
Studies No. 57, University of Aberdeen, Aberdeen, Scotland, 1912, 210 pp.  
USDA  
460.13  
CS4

This work gives the Latin names for the dicotyledones of Thailand, source of discovery, occurrence in Thailand, and distribution of the plants. Descriptions of plants discovered by Craib are given in Latin with some numerical values indicated.

V20-01-02-XO Craib, William G., "Contributions to the flora of Siam, list of Siamese plants with descriptions of new species." Bulletin of Miscellaneous Information, Royal Botanic Gardens, Kew No. 10, printed for Her Majesty's Stationery Office by Darling & Son, Limited, London, England (1911), pp 359-474.  
LC  
JAI  
.K4

This article is a continuation of the Bulletin No. 1, 1911, p 60. It contains Capri-foliaceae through Calicaceae and gives botanical names, location of occurrence, reporting authority, place of original report, and distribution of plants. Some local names are included. The descriptions of the new species, while quite lengthy, are in Latin.

V21-01-02-XO Craib, William G., Contributions to the Flora of Siam, Monocotyledones.  
Studies No. 61, University of Aberdeen, Aberdeen, Scotland, 1913, 41 pp.  
USDA  
460.13  
CS4

This work gives the Latin names, source of discovery, occurrence, and the distribution of the monocotyledones found in Thailand. Descriptions of the plants discovered by Craib are given in Latin, with some numerical values included.

V22-01-02-XO Craib, William G., Flora Siamesis Enumeratio, A List of Plants Known from Siam with Remarks of Their Occurrence. Vol 1, Part 1, Ranunculaceae and Elaeagnaceae, published under the auspices of the Siam Society, Bangkok Times Press, Limited, Bangkok, Thailand, March 5, 1924, pp 1-124.  
LC  
JAI  
.CT3

This part contains an explanation of the format used and a listing of all reference sources in addition to a small-scale map showing the 18 circles of Siam. The species are described by botanical name, location of occurrence, reporting authority, place of original report, and distribution. In some cases a very short description of the plant and its environs is included along with local name.

V23-01-02-X0      Craib, William G., Florae Siamensis Enumeratio, A List of the Plants  
 USDA                      Known from Siam with Records of Their Occurrence. Vol 1, Part 2,  
 460.13                      Linaceae to Anacardiaceae, published under the auspices of the Siam  
 C84F                      Society, Bangkok Times Press, Limited, Bangkok, Thailand, October 10,  
 V 1                      1926, pp 199-358.  
 Pt 2

This book gives the botanical name, location of occurrence, reporting authority, place of original report, and distribution of the plants. In some cases a very short description of the plant and its environs is included, along with the local name.

V24-01-02-X0      Craib, William G., Florae Siamensis Enumeratio, A List of the Plants  
 USDA                      Known from Siam with Records of Their Occurrence. Vol 1, Part 3, Con-  
 460.13                      naraceae and Leguminosae, published under the auspices of the Siam  
 C84F                      Society, Bangkok Times Press, Limited, Bangkok, Thailand, September 20,  
 V 1                      1928, pp 359-561.  
 Pt 3

This book gives the botanical name, location of occurrence, reporting authority, place of original report, and distribution of plants. In some cases a very short description of the plant and its environs is included, along with the local name.

V25-01-02-X0      Craib, William G., Florae Siamensis Enumeratio, A List of the Plants  
 USDA                      Known from Siam with Records of Their Occurrence. Vol 1, Part 4,  
 460.13                      Rosaceae - Nyssaceae, published under the auspices of the Siam Society,  
 C84F                      Bangkok Times Press, Limited, Bangkok, Thailand, March 28, 1931,  
 V 1                      pp 563-809.  
 Pt 4

This book gives the botanical name, location of occurrence, reporting authority, place of original report, and distribution of plants. In some cases a very short description of the plant and its environs is included, along with the local name. This part concludes the volume and contains an errata and an index for volume one.

V26-01-02-X0      Craib, William G., Florae Siamensis Enumeratio, A List of the Plants  
 USDA                      Known from Siam with Records of Their Occurrence. Vol 2, Part 1,  
 460.13                      Caprifoliaceae and Rubiaceae (in part), published under the auspices of  
 C84F                      the Siam Society, Bangkok Times Press, Limited, Bangkok, Thailand,  
 V 2                      March 12, 1932, pp 1-145.  
 Pt 1

This book gives the botanical name, location of occurrence, reporting authority, place of original report, and distribution of plants. In some cases a very short description of the plant and its environs is included, along with the local name.

V27-01-02-X0      Craib, William G., Florae Siamensis Enumeratio, A List of the Plants  
 USDA                      Known from Siam with Records of Their Occurrence. Vol 2, Part 2,  
 460.13                      Rubiaceae (concluded) to Dipsacaceae, published under the auspices of the  
 C84F                      Siam Society, Bangkok Times Press, Limited, Bangkok, Thailand, February  
 V 2                      28, 1934, pp 147-234.  
 Pt 2

Vegetation, Text

This book gives the botanical name, location of occurrence, reporting authority, place of original report, and distribution of plants. In some cases a very short description of the plant and its environs is included, along with the local names.

V28-01-02-XO            Craib, William G., "List of Siamese plants with descriptions of new species." Bulletin of Miscellaneous Information, No. 1, Royal Botanic Gardens, KEW, London, England (1911), pp 7-60.

SEE: Kerr, A. F. G., "Contributions to the flora of Siam." Bulletin of Miscellaneous Information, No. 1, Royal Botanic Gardens, KEW, London, England (1911), pp 1-60.

V29-01-02-XO            Craib, William G., and Kerr, A. F. G. (ed), Florae Siamensis Enumeratio, A List of the Plants Known from Siam with Records of Their Occurrence.  
USDA                      Vol 2, Part 3, Compositae to Campanulaceae, published under the auspices  
460.13                    of the Siam Society, Bangkok Times Press, Limited, Bangkok, Thailand,  
C84F                      January 1936, pp 235-310.  
V 2  
Pt 3

This book gives botanical names, locations of occurrence, reporting authorities, places of original report, and distribution of plants. In some cases a very short description of the plant and its environs is included, along with the local name.

V30-01-05-XO            Craib, William G., and Kerr, A. F. G., Florae Siamensis Enumeratio, A List of the Plants Known from Siam with Records of Their Occurrence.  
Vol 2, Part 4, published under the auspices of the Siam Society, Bangkok Times Press, Limited, Bangkok, Thailand.

Not available for review.

V31-01-05-XO            Craib, William G., and Kerr, A. F. G., Florae Siamensis Enumeratio, A List of the Plants Known from Siam with Records of Their Occurrence.  
Vol 2, Part 5, Oleaceae to Apocynaceae, published under the auspices of the Siam Society, Bangkok Times Press, Limited, Bangkok, Thailand.

Not available for review.

V32-01-02-XO            Craib, William G., and Kerr, A. F. G., Florae Siamensis Enumeratio, A List of the Plants Known from Siam with Records of Their Occurrence.  
USDA                      Vol 3, Part 1, Asclepiadaceae to Convolvucaceae, published under the  
460.13                    auspices of the Siam Society, Prachandra Press, Bangkok, Thailand,  
C84F                      August 1951, pp 1-100.  
V 3

This book gives the botanical names, locations of occurrence, reporting authorities, places of original report, and distribution of plants. In some cases a very short description of the plant and its environs is included, along with the local name. Other parts of this volume were not available for review.

V33-01-02-XGLSHC        Credner, Wilhelm, Siam, das Land der Tai. J. Engelhorn's Nachf., Stuttgart, Germany, 1935, 422 pp, 11 pls, maps.

- V34-01-02-XG1SHC Credner, Wilhelm, Siam, das Land der Tai. (Translated by Miss Collmann, Army Map Service), 1959, 84 pp.
- V35-01-02-XG1SHC Dobby, Ernest Henry George, Monsoon Asia. Quadrangle Books, Inc., Chicago, Ill., 1961, 381 pp, illus, maps.
- V36-01-02-XG1SHC Dobby, Ernest, H. G., Southeast Asia, 7th ed. University of London Press, Limited, London, England, 1960, 415 pp, illus, maps.
- V37-01-03-XG Dutch Indies Government, "The export of teakwood from the Netherlands Indies, British India and Siam." Actes du I Congres International de Sylviculture, vol 5, Rome, Italy (1926), pp 730-743.

This report consists of six tables on the export of teakwood from the three countries. Two tables concern Siam. The first, table five, gives the export to all countries in cubic meters for the years 1908-1914 and 1918-1925. The second, table six, gives the export to all countries for the three countries from 1919 to 1925.

- V38-01-02-XS Eyre, S. R., Vegetation and Soils. Aldine Publishing Company, Chicago, Ill., 1963, 324 pp, illus, map.

This general reference discusses, at an elementary level, the vegetation and soil development of the world, with emphasis on vegetation. It is presented in four parts: vegetation and soil development, vegetation and soils outside the tropics, the British Isles, and tropical regions. Each is subdivided into sections in which rather detailed descriptions are given related to the habitat of vegetative types. Many photographs and drawings are used for illustrations. Small-scale maps show continental vegetation. A listing of technical terms and a 26-item bibliography conclude the book.

- V39-01-02-XO "Forest resources of Siam." Proceedings of the Sixth Pacific Science Congress of the Pacific Science Association Held at the University of California, Berkeley, Stanford University and San Francisco July 24th to August 12th, 1959, vol 4, University of California Press, Berkeley and Los Angeles, Calif., 1940, pp 823-829.
- AMS  
031  
P55p

This article discusses the character and distribution of forests and divides trees into evergreen and deciduous. Evergreens are mangrove, hill evergreens, pines, and tropical evergreens. Tropical evergreens are the most extensive, including all types not previously mentioned. Deciduous forests cover about 70 percent of the total area and are divided into mixed deciduous, or monsoon forest, and pa deng, or deciduous dipterocarp forest. The latter is more open in character and simple in composition, occurring mostly in eastern Siam. Further discussions are on imports and exports, local consumption, secondary products, forest movement and legislation, and the probable future of forestry. The article is useful in giving a general orientation of forestry in Thailand. Three tables expand on the general text.

- V40-01-02-XC Fosberg, F. R., Garnier, B. J., and Kuchler, A. W., "Delimitation of the humid tropics." The Geographical Review, vol 51, No. 3, New York, N. Y. (July 1961), pp 333-347, maps.
- V41-01-02-XO Foxworthy, F. W., "Commercial timber trees of the Malay Peninsula." Malayan Forest Records, No. 3, Federated Malay States Forest Department, Singapore, 1927, 195 pp, illus, map.
- LC  
SD9,  
M3A33

## Vegetation, Text

This book describes the timber from 10° southward, first giving a short, general view of the area relative to geography, climate, soils and topography, forest coverage, and composition. The descriptions are for field identification purposes, and the trees are described according to name, distribution, habitat, bark, leaves, flowers and fruit, seedlings, products, and silviculture. Photographs usually illustrate each specie described. The map included shows political boundaries, major drainage, and towns.

V42-01-05-XO                      Gairdner, K. G., "Notes on the fauna and flora of Ratburi and Petchaburi districts." Journal of the Natural History Society of Siam, vol 1, Nos. 1 and 3, Bangkok, Thailand (February 1914 and March 1915), pp 27-40 and pp 32-156.

Not available for review.

V43-01-02-XO                      Garrett, H. B., and Kerr, A. F. G., "Doi Angka, the highest mountain in Siam." The Journal of the Siam Society, vol 19, Part 1, Bangkok, Thailand (May 1925), pp 1-19.  
LC  
DS561  
.T5

This is an account of an expedition to the top of Doi Angka (or Doi Inthanon), located about 36 miles south-southwest of Chiang Mai, and describes the terrain traversed and the flora collected. Geologic information is limited to a statement that there were no sedimentary rocks seen on the mountain.

V44-01-02-XGLSHC                      Graham, Walter Armstrong, Siam: A Handbook of Practical, Commercial and Political Information, 2d ed. Alexander Moring, Limited, London, England, 1912, 637 pp, illus, map.

V45-01-02-XGL                      Great Britain Interservice Topographical Department, Southeast Asia Command, Siam Roads - Kanburi to Bon Pong, Three Pagodas Pass to Kanburi, and Lam Poeng to Kemapyu. 1946-47, 23 pp, maps.

V46-01-02-XG                      Great Britain RECCE Unit, Supreme Allied Command in Southeast Asia, Pakran-Mulburi-Chanthaburi Road, 28 Jan-2 Feb 1946, Bridge Report. 1946, 35 pp.

V47-01-05-XO                      Haden-Guest, Stephen; Wright, John K.; and Teclaff, Eileen M. (editors), A World Geography of Forest Resources. Ronald Press Company, New York, N. Y., 1956, 736 pp, maps. (American Geographical Society Special Publication No. 33.)

This book is composed of numerous articles by various authors, including "Southeast Asia" by P. Sevanone in pages 491-517. Not available for review.

V48-01-02-XO                      Hill, Albert F., Economic Botany, 2d ed. McGraw-Hill Book Co., Inc., New York, N. Y., 1952, 560 pp, illus.  
Univ. of Chicago  
Library  
SB107  
.H641

This is a botany textbook. Many woods and wood products are described. One section contains a two-page discussion of forest areas in Asia and the most important commercial species, such as ebony, padouk, satinwood, and teak.

- V49-01-02-X0 Huberman, M. A., "Forest in ferment." American Forest, vol 55, Washington, D. C. (March 1949), pp 18-20 and 40-41.

This article discusses in a general way the teak industry, the shellac industry, and forest conservation in Thailand and China.

- V50-01-02-XS Imperial Bureau of Soil Science, Tropical Soils in Relation to Tropical Crops. Technical Communication No. 34, Harpenden, England, 1936, 60 pp.  
LC  
S590  
.C53

- V51-01-02-X0 Kerr, Arthur Francis George, "Contributions to the flora of Siam." Bulletin of Miscellaneous Information, No. 1, Royal Botanic Gardens, KEW, London, England (1911), pp 1-60.  
LC  
QK1  
.K4

This article is presented in two parts. The first part is a sketch of the vegetation of Chienguei, and Doi Sootep in particular, in which the climate, soil, and characteristics of the vegetation are discussed. The climate is discussed in very general terms, and the soils descriptions are limited to statements that the mountain is composed of metamorphic rocks and in most places is overlain by red clay. The vegetation is described in elevation bands up the 5500-ft mountain with divisions at 2000, 3000, and 4500 ft. Only the chief vegetative types and associated types are given for each band, and the author admits that the types described are intermixed in many places. The second part, attributed to W. G. Craib, is a listing of Siamese plants (Ranunculaceae through Alangiaceae) with descriptions of new species in which botanical and common names; places, dates, and authorities of original report; occurrences in Thailand; and geographical distributions are given. Latin descriptions are included for the new species.

- V52-01-02-X0 Kerr, Arthur Francis George, "Contributions to the flora of Siam." Bulletin of Miscellaneous Information, Royal Botanic Gardens, KEW, printed for His Majesty's Stationery Office by Messrs. Wyman and Sons, Limited, London, England (1912), pp 144-155, 264-269.

This reference contains detailed technical descriptions of vegetation types of Siam. Although the descriptions are in Latin, the type localities, common names, and reporting authorities are in English.

- V53-01-03-X0 Kerr, Arthur Francis George, "Early botanist in Thailand." The Journal of the Thailand Research Society, Natural History Supplement, vol 12, No. 1, Bangkok, Thailand (December 1939), pp 1-27.  
LC  
QH1  
.T5

This article gives a chronological listing of botanists, time spent in Thailand, and important contributions from 1690 to 1926. Brief background material is given concerning each botanist.

- V54-01-02-X0 Kerr, Arthur Francis George, "Notes on a trip from Prachuap (Kaw Lak) to Nergui." Journal of Siam Society, vol 26, Part 2, Bangkok, Thailand (1938), pp 203-214, map.  
LC  
DS561  
.T5

- V55-01-02-X0 Kerr, Arthur Francis George, "Notes on introduced plants in Siam." Journal Siam Society, Natural History Supplement, vol 3, No. 3, Bangkok, Thailand (1931), pp 197-212.

These notes were written with the purpose of putting on record some of the facts the author had gathered concerning the introduction of plants into Siam. The generic and common name, time of introduction, introducer, and plant source are given for approximately 50 species. Descriptions of plants are not included.

V56-01-02-XO                      Kerr, Arthur Francis George, "Recent advances in our knowledge of the  
LC                                      flora of Siam." The Journal of the Siam Society, vol 10, Part 1, Bang-  
DS561                                  kok, Thailand (1913), pp 13-15.  
.T5

This brief article describes the prominent botanical articles written and the number of species each describes. Less than a dozen references are given.

V57-01-02-XO                      Kerr, Arthur Francis George, "Sketch of the vegetation of Chiang Mai."  
Bulletin of Miscellaneous Information, No. 1, Royal Botanic Gardens, Kew,  
London, England (1911), pp 1-6.

SEE: Kerr, Arthur Francis George, "Contributions to the flora of Siam."  
Bulletin of Miscellaneous Information, No. 1, Royal Botanic Gardens,  
Kew, London, England (1911), pp 1-60.

V58-01-02-XG                      Ladejinsky, W. I., "Thailand's agricultural economy." Foreign Agricul-  
ture, vol 6, No. 5, Washington, D. C. (May 1942), pp 165-184, maps.

V59-01-03-XO                      Ladell, W. R. S., "Paddy cultivation in Siam." Tropical Agriculturist,  
vol 77, Peradeniya, Ceylon (1931), pp 173-179.

LC  
S17  
.T85

This article gives a general picture of the history of irrigation, types of rice grown, cultivation methods used, and planting and harvesting times for rice. Two tables give acres cultivated and tons harvested for the years 1921 through 1930 and quantity and value of exported rice for the years 1915 through 1931. The article contains no quantitative terrain data.

V60-01-05-XO                      Loetsch, Fritz, Report to the Government of Thailand on Forest Inventory  
of the Northern Teak Bearing Provinces. Food and Agriculture Organi-  
zation Report No. 895, United Nations Food and Agriculture Organization,  
Rome, Italy, 1958.

Not available for review.

V61-02-02-XO                      Mahaphol, Swadi, Teak in Thailand. No. R.16, Thailand Royal Forest  
Department, Bangkok, Thailand, 1954, 31 pp, illus, maps.

The book begins with general comments describing varieties of teak and lists the occurrence and composition of tropical wet evergreen, tropical semievergreen, tropical moist deciduous, sub-tropical wet hill, tropical dry deciduous, and subtropical pine forests. Teak flourishes in only the tropical moist and dry deciduous forests, and the composition of these types is described in more detail. Sections on site factors, silvics, silviculture, injuries and protection, volume and yield, current research and research needs are presented. The section on site factors contains general discussions on topography, geology, soil, climate, and natural succession. The geologic and climatic information came from Brown, et al. "Geologic Reconnaissance of the Mineral Deposits of Thailand" and Bunag's "Climate of Siam," respectively. The sections on silvics, silviculture, and injuries and protection deal with the major subjects of leaf shedding, flowering and fruiting, growth, harvest cuttings, artificial regeneration, man, animals, and natural hazards. The last

three sections are only briefly touched. Four appendixes and five maps conclude the article. The appendixes show average distribution of rainfall by the month and average annual rainfall at various stations in the teak zone, monthly mean temperature of stations in the main teak zone, summary statement showing number of teak trees selected and left standing during the last 30 years felling cycle, and teak worked out during 1934-1952. Four maps at an approximate scale of 1:5,000,000 show monthly temperature distribution, monthly rainfall distribution, diagrammatic sketch of the physiographic provinces of Thailand, and average annual rainfall in Thailand. The first three of these are identical to Brown's maps; the fourth has divisions at 1270 millimeters and 2794 millimeters, dividing the country into three categories: dry, moderately wet, and remarkably wet. The fifth map is at a scale of 1:2,500,000 and is entitled "Map showing the main teak region of Thailand." This map shows that the principal teak area is in North Thailand and along the Burma border down to 13°N. Two small isolated areas of teak are on the western perimeter of the Khorat Plateau just north and south of Loi. The basic information shown includes political boundaries, drainage, railroads, towns, and 1-deg stub coordinates.

V62-01-02-XGLSHC      McCarthy, James, Surveying and Exploring in Siam. J. Murray, London, England, 1900, 215 pp, charts, maps.

V63-01-04-XO      Merrill, Elmer Drew, and Walker, Egbert H., A Bibliography of Eastern Asiatic Botany. The Arnold Arboretum of Harvard University, Jamaica Plain, Mass., 1938, 719 pp.  
 LC  
 Z5358  
 .A82M32

This extensive bibliography touches only a small portion of the MERS study area and a very limited number of references are included.

V64-02-02-XS      Montrakun, Saret, and Moemmann, F. R., "Report on the soil survey of the Huai Si Thon irrigation project." Miscellaneous Soil Reports of the Department of Rice, Department of Agriculture, and the Royal Irrigation Department, No. 5. Thailand Ministry of Agriculture, Bangkok, Thailand (June 1962), 19 pp, illus, maps.

V65-01-02-XGLSHC      Nuttonson, M. Y., The Physical Environment and Agriculture of Thailand. American Institute of Crop Ecology, Washington, D. C., 1963, 256 pp.

V66-01-05-XO      Ogawa, H., Yoda, K., and Kira, T., "A preliminary survey on the vegetation of Thailand." Nature and Life in Southeast Asia, vol 1, Kyoto, Japan (1961), pp 21-157.

Not available for review.

V67-01-05-XO      Ogura, Yuzuru, "Mangrove plants in Eastern Asia." Syokubutu Oyobi Dobutu (Botany and Zoology, Theoretical and Applied), vol 10, No. 2, pp 145-149, No. 3, pp 233-237, Tokyo, Japan, 1941.

Not available for review.

V68-01-02-XGLSHC      Pacific Science Congress, 9th, Bangkok, Thailand, Thailand, Past and Present. Bangkok, Thailand, 1957, 193 pp, map.

V69-01-04-XS      Pendleton, Robert Larimore, "The agriculture of Siam." Foreign Agriculture, vol 10, No. 11, Washington, D. C. (November 1946), pp 154-167, map.



Vegetation, Text

- V70-01-02-XS Pendleton, Robert Larimore, "Soils of Thailand." Thai Pictorial, vol 1, No. 2, Bangkok, Thailand (August 1941), pp 39-50.
- V71-01-02-X0 Pendleton, Robert Larimore, "Soil interrelations between agriculture and forestry, particularly in Thailand." The Journal of the Thailand Research Society, Natural History Supplement, vol 12, No. 1, Bangkok, Thailand (December 1939), pp 33-52.
- LC  
QH1  
.T5

The author attempts to focus attention on the facts and relations between forest, climate, and agriculture. It is explained that forests do not increase rainfall but do increase the useful water supply of a region. Agricultural differences between tropical and temperate zones are briefly described and humid tropical agricultural methods are explained. Agriculture and forestry relations are given for each of the physiographic regions in Thailand.

- V72-01-02-XGLSHC Pendleton, Robert Larimore, Thailand, Aspects of Landscape and Life. Duell, Sloan, and Pearce, New York, N. Y., 1962, 331 pp, illus, maps.
- V73-01-02-X0 Phananchora, Phya, "Forest of Siam and their resources." Siam Today, Bangkok, Thailand, 1937 (?), pp 47-53.

USDA  
99.26  
P49

This is a good, concise reference concerning the forests of Thailand. It is estimated that 70 percent of Thailand's 500,000 square kilometers are covered with some type of forest. Two classes are distinguished, the evergreen forest and the deciduous forest. The evergreen forests form the dominant vegetation of the peninsula, southeast Thailand, and the mountainous regions above 1000 meters in elevation. Other occurrences are scattered and limited to moist localities. The evergreen forests are divided into the mangrove, tropical evergreen, and hill evergreen. The mangrove forests cover about 1500 square kilometers and occur on the west coast of the peninsula and on the eastern side of the Gulf of Siam. The tropical evergreen forests attain their best development in the peninsula and southeastern Siam, forming the characteristic forest vegetation of these regions. Tropical evergreen forests probably cover 15 to 20 percent of the total forest area. The composition is very complex, containing numerous species of which the dipterocarps, or wood oil trees, are the most common. The hill evergreen forests occur in the cool mountains at elevations usually greater than 1000 meters. Their total area is small, occurring mostly in northern Siam. The deciduous forests occupy 70 to 75 percent of the total forest area and can be divided into the deciduous dipterocarp and mixed deciduous. The deciduous dipterocarp forests usually grow on rather poor sandy, rocky or lateritic soil and cover approximately 50 percent of the total forest area. This type occurs mostly in eastern and western Siam. These dipterocarps are gregarious in habit. Mixed deciduous forests develop where the soil condition is better and cover approximately 20 to 25 percent of the total forest area. They are composed of a great variety of trees, usually larger than trees in the deciduous dipterocarp type and growing without a regular order. The remainder of the article is devoted to monetary value of exported forest products.

- V74-01-02-X0 Picharn, Phya Vanpruk, List of Common Trees, Shrubs, Etc. in Siam, Bangkok Times Press, Bangkok, Thailand, 1923, 278 pp.

USDA  
99.26  
P58

This book gives a vernacular-botanical listing of approximately 1500 common trees and shrubs in Thailand and it is intended for use as a ready reference by foresters, timber traders, and students.

V75-01-02-XO

Purnasiri, Prayote, "Thai agriculture today." Far Eastern Economic Review, vol 33, No. 11, Hongkong (September 14, 1961), pp 495-496.

USDA  
280.8  
F223

The present state of agriculture and government plans for the future are briefly discussed. The author describes agricultural and forestry holdings and touches briefly on the crops rice, rubber, and corn. Acreage, production, and methods to improve production are outlined.

V76-02-02-XSCL

Royen, William van, "The agricultural resources of the world." Atlas of the World's Resources, vol 1, Prentice-Hall, Inc. for the University of Maryland, New York, N. Y. (1954), 257 pp, maps.

AMS  
G1046  
G3V21  
V.1

This volume covers major crop production of the world. The introduction contains small-scale maps, at an approximate scale of 1:125,000,000, showing landforms of mountains, hill lands, plateaus and tablelands, and plains; climates according to the schemes of Koppen et al and van Royen and Bengtson; annual precipitation with divisions at 10, 20, 30, 40, 60, and 80 inches; world precipitation variability with percentage departure from normal with divisions at 10, 15, 20, 25, 30, and 40 percent; soils according to the U. S. Department of Agriculture system; population with dots representing 50,000 persons; and agricultural regions. Larger-scale maps at an approximate scale of 1:27,000,000 show agricultural and land use for particular regions with south and east Asia being portrayed on a single sheet. A brief explanatory text usually accompanies each map and a short bibliography is included for each crop.

V77-01-03-XO

Samapuddhi, Krit, A Note on Preliminary Studies in Some Methods of Identifying the Timbers of Pentacme, Siamensis, Kurz., Shorea Obtusa, Well., and Shorea Obusta, Gerten F. No. R.24, Thailand Royal Forest Department, Bangkok, Thailand, July 1957, 9 pp, illus.

LC  
GPRR

This report presents the findings of chemical and microscopic analysis for variances in timber characteristics and gives recommended methods of testing. Appendixes and ten power photographs supplement the text.

V78-01-02-XO

Samapuddhi, Krit, Some Food Plants in the Forest of Thailand. No. R.25, Thailand Royal Forest Department, Bangkok, Thailand, July 1956, 6 pp.

LC  
GPRR

Forty-nine food plants, composed of 18 evergreens, 20 mixed deciduous, 5 deciduous dipterocarp, and 4 mangrove varieties, are tabulated giving local and botanical names, edible parts, methods of preparation, taste, and pertinent remarks on country location and special features.

V79-01-02-XO

Samapuddhi, Krit, Some Secondary Species Recently Introduced into the Thai Timber Market. No. R.27, Thailand Royal Forest Department, Bangkok, Thailand, 1958, 14 pp, illus.

This report gives the anatomical structure and technical properties of five species recently introduced into the Thai timber market. These species are *Hoprea Farrea*, *Vatica Obovata*, *Protium Berratum*, *Terminalia Macronata*, and *Madhuca Pierrei*. The local trade name, habit and distribution, general characteristics, pores, color of heartwood, weight, working quality, and supply are given for each species. A table showing the mechanical strength of the species and a comparison with teak (*Tectona Grandis*), reng (*Shorea Obtusa*), and rang (*Pentacme Siamensis*) conclude the report.

V80-01-01-XO

Samapuddhi, Krit, Yarrag Oil. No. R.14, Thailand Royal Forest Department, Bangkok, Thailand, September 1954, 12 pp, illus. map.

This is a brief resumé of the yamg oil industry of Thailand. The methods of tree tapping and sap collecting are discussed along with the known and possible uses, such as waterproofing, paint preparation, and medicinal purposes. Although it has been used previously, research is underway to improve use of yamg oil as a substitute for diesel oil. The chemical properties of the oil are given, photographs illustrate the text, and a small-scale map shows the distribution of the two species, *Dipterocarpus Alatur* and *Dipterocarpus Turbinatus*, which yield the oil.

V81-01-05-XO                      Saxton, W. T., "Phases of vegetation under monsoon conditions." Journal of Ecology, vol 12, Oxford, England (1924).

Not available for review.

V82-02-05-XO                      Sewardono, R., "Southeast Asia." A World Geography of Forest Resources, Ronald Press Company, New York, N. Y. (1956), pp 491-517. (American Geographical Society Special Publication No. 33.)

Not available for review.

SIEM: Haden-Guest, Stephen; Wright, John K.; and Teclaff, Eileen M.; A World Geography of Forest Resources, Ronald Press Company, New York, N. Y. (1956), 736 pp, maps. (American Geographical Society Special Publication No. 33.)

V83-01-05-XO                      Siam Ministry of Commerce and Communications, "The genera *Hymnocrarpus* and *Taraktogenos* in Siam." Technical and Scientific Supplement to the Record, No. 7, Bangkok, Siam, November (1930), 16 pp, illus, maps.  
USDA  
269  
SI14A

This report traces the medical benefits received from the fruit of the genera and describes species according to habitat, size, and yield of nuts. Several photographs illustrate the text and two small-scale maps, approximately 1:10,000,000, show their distribution.

V84-01-05-XO                      Smitinand, Tem, "Identification keys to genera and species of the Dipterocarpaceae of Thailand." Thai Forest Bulletin (Botany), No. 4, R.18, LC  
GPRR:                      Thailand Royal Forest Department, Bangkok, Thailand (August 1954), 32 pp, illus, map.

This bulletin furnishes good botanical descriptions of the genera and species found in Thailand. The author has combined his work with references from several well-known botanical experts of Thailand. Two photographs and one black and white drawing are the extent of the illustrations. A small-scale map shows the distribution of *Balanocarpus* (south 7°N), *Cotylelobium* and *Parashorea* (south 9°-10°N), and *Dipterocarpus*, *Shorea*, *Vatica*, *Anisoptera*, *Hopci*, and *Pentacme* in Thailand. A 21-item botanical bibliography and an index to botanical names conclude the report.

V85-01-05-XO                      Smitinand, Tem, "New records of plants from Thailand." The Natural History Bulletin of the Siam Society, vol 20, No. 2, Bangkok, Thailand  
LC  
GPRR:                      (October 1960), pp 121-133.

This article lists 33 new plant species in Thailand and additional localities for two other species. It is the second part of a study, the first part being "Some noteworthy plants from Thailand" by the same author. Botanical names; authorities, dates, and places of original report; Thailand localities; and geographic distribution are given. In some instances local names and brief descriptions are included.

V86-01-05-XO                      Smitinand, Tem, "Some noteworthy plants from Thailand." The Natural History Bulletin of the Siam Society, vol 20, Bangkok, Thailand (March 1961), pp 41-70.  
LC  
GPRR:

This is the same as the author's article of the same title appearing in the Thai Forest Bulletin (Botany).

V87-01-02-X0                      Smitinand, Tem, "Some noteworthy plants from Thailand." Thai Forest Bulletin (Botany), No. 2, R.19, Thailand Royal Forest Department, Bangkok, Thailand (January 1955), 35 pp, illus.  
LC  
GPRR

This bulletin describes 69 members of the Dicotyledon and Monocotyledon family. Botanical names, reporting authorities and dates, local names if available, occurrence in Thailand, and world-wide distribution are given. A few photographs illustrate the report. A botanical and vernacular indexes conclude the bulletin.

V88-01-02-X0                      Smitinand, Tem, "The genus Dipterocarp, Gerten F., in Thailand," Thai Forest Bulletin (Botany), No. 4, R.26, Bangkok, Thailand (September 1958), 50 pp, illus, maps.  
USDA  
99.9  
S113

This report gives some descriptions of the genera which have not been previously recorded. The author gives background information by dividing the country into seven floral regions and briefly describing the topography and flora of each. The species are then described according to reporting authorities; dates of original report; general descriptions of stems, leaves, and fruit; distribution; and local names. Hand drawn plates illustrate the text and several small-scale maps show spot locations of the species.

V89-02-02-XS                      Snitwongs, Prompan, "Report on the soil survey of Tha Phra agricultural station and surroundings (Khon Kaen Province)." Miscellaneous Soil Reports of the Department of Agriculture, Department of Rice, and the Royal Irrigation Department, No. 15, Thailand Ministry of Agriculture, Bangkok, Thailand (June 1963), 8 pp, illus, maps.

V90-01-02-X0                      Steenis, Cornelia G. G. J. van, "Discrimination of tropical shore formations." Proceedings of the Symposium on Humid Tropic Vegetation, Tajrawi, Indonesia, UNESCO Science Cooperation Office for South East Asia, New Delhi, India (December 1958), pp 215-217.  
LC  
QK1  
.S965

The various vegetative types common to beaches are described and a natural ecological system for tropical shore vegetation is given in this report.

V91-01-02-X0                      Suvarnasuddhi, Khid, Some Commercial Timbers of Thailand, Their Properties and Uses. Thailand Royal Forest Department, Bangkok, Thailand, 1950, 51 pp, illus, maps. Reprinted in 1954.  
AMS  
SD97  
T3T38

This publication lists all the commercial timbers of Thailand by genus and specie and shows the distribution of each on a small-scale map. Other data include local trade names, habits, and distribution, general characteristics, specific gravities, seasoning, durability, working qualities, uses, supplies, and some good photographs. This should prove useful in determining tree types in areas, as well as their characteristics.

V92-01-02-XSC                      Suvatabandhu, Khid, "Vegetation of Thailand and its correlation with climate and soil type." Proceedings of the Symposium on Humid Tropic Vegetation, Tajrawi, Indonesia, UNESCO Science Cooperation Office for South East Asia, New Delhi, India (December 1958), pp 170-175.  
LC  
QK1  
.S965

Vegetation, Text

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This brief article discusses the geography, topography, geology, soils, climate, and temperature of the country while making this correlation. It is concluded that vegetation is not only ruled by temperature and rainfall, but it is affected by edaphic and anthropogenic factors. A table gives monthly and annual total and average rainfall for the five physiographic regions of Thailand.

- V93-01-02-XLSH      Terrain Features, Thailand Intelligence Estimate, annex A.1, April 1959, 17 pp.
- V94-01-02-XGS      Thailand Department of Commerce, "Botanical Section - report on a tour in Northeastern Siam and French Laos, with an account of a trip from Prachuab to Mergui March B.E. 2474 - June B.E. 2475." The Record, vol 12, No. 4, and vol 13, No. 1, Bangkok, Thailand, First and Second quarters B.E. 2476 (1933), pp 317-323 and 36-43.
- V95-01-02-XG      Thailand Department of Commerce and Communications, Report on a Tour in the Provinces of Ranong, Takua, Pang-Nga and Phuket (December 19, 1928 - March 16, 1929). Bangkok Times Press, Limited, Bangkok, Thailand, illus, map. Reprinted from The Record, Nos. 38 and 39, Bangkok, Thailand (October 1930 and January 1931), pp 235-246.
- V96-01-05-XO      Thailand Department of Commercial Intelligence, Thailand Nature and Industry, III, Flora, Vegetation, Fauna. Bangkok, Thailand (1953), 60 pp, illus.
- Not available for review.
- V97-02-02-XGHC      Thailand Ministry of Agriculture, Agriculture in Thailand, Bangkok, Thailand, 1957, 263 pp, illus, maps.
- V98-01-02-XGS      Thailand Ministry of Agriculture and Commerce, Report on a Tour in the Circles of Nakon Rejasima and Udon, June-July B.E. 2475. The Bangkok Times Press, Limited, Bangkok, Thailand, July 1932, 6 pp, illus. Reprinted from The Record, vol 12, No. 3, Bangkok, Thailand (July 1932), pp 209-214.
- V99-01-02-XGS      Thailand Ministry of Agriculture and Commerce, "Report on tour in the provinces of Korat, Chaiyapum, Kawn Ken, Loi, and Petchabun January 19 to March 10, 1931." The Record, vol 12, Nos. 1 and 2, Bangkok, Thailand (July 1932), pp 9-20 and 128-139, illus.

V100-01-02-X0

AME  
S471  
T3T38  
1950

Thailand Ministry of Agriculture, Division of Agricultural Economics and Land Use, Areas of Thailand by Province and Region, 1950, Bangkok, Thailand, May 1950, 22 pp.

This report gives the land use by province and region, total land areas in rai, and areas in forests, swamp, and farmland. The use of farmland is broken into paddy planting, tree crops, woodland, upland crops, and others.

V101-01-02-XGS

Thailand Ministry of Commerce, "Report of a tour undertaken by the Botanical Section in the circle of Pattani (July-September 1923)." The Record, No. 12, Bangkok, Thailand (April 1924), pp 18-24, map.

V102-01-02-XGS

Thailand Ministry of Commerce, Report of the Botanical Section, September 1, 1920 to December 31, 1922. Bangkok Times Press, Limited, Bangkok, Thailand, July 1923, 15 pp, map. Reprinted from The Record, Bangkok, Thailand, April and July 1923.

V103-01-02-XGS

Thailand Ministry of Commerce, "Report on a tour of the Botanical Section in the Island of Kaw Chang (Chandaburi Circle), Latitude 12°N, Longitude 102°25'E (from September 24 to October 5, 1924)." The Record, No. 19, Bangkok, Thailand (January 1926), pp 173-177.

V104-01-02-XGS

Thailand Ministry of Commerce, "Report on a tour of the Botanical Section through the eastern circles of Siam (December 1923 - April 1924)." The Record, Nos. 15 and 16, Bangkok, Thailand (January and April 1925), pp 157-172 and 217-233, map.

V105-01-02-X0

LC  
HF259  
.S55

Thailand Ministry of Commerce, "Report on the mangrove forest of the Bhuket circle." The Record, vol 14, No. 15, Bangkok, Thailand (January 1925), pp 145-149.

This article presents a brief description of the mangroves along the western coast of Thailand. The forests are discussed in general terms, and a brief summary of the chief species are given according to characteristics and uses. Less detailed discussions of the charcoal, fuel, and tannin industries conclude the article.

V106-01-02-XGS

Thailand Ministry of Commerce and Communications, Report on a Second Tour in the Province of Surat, Southern Siam (July 16 - August 16, 1927). Bangkok Times Press, Limited, Bangkok, Thailand, July 1929, 6 pp, illus. Reprinted from The Record, No. 32, Bangkok, Thailand, April 1929.

- V107-01-02-XGS Thailand Ministry of Commerce and Communications, "Report on a tour in the Province of Naratiwod (April 12 - May 6, 1931)." The Record, No. 41, Bangkok, Thailand (July 1931), pp 14-19, illus.
- V108-01-02-XGS Thailand Ministry of Commerce and Communications, Report on a Tour in the Province of Prachuap (June-July 1926) and Report on a Tour up the Menam Pasak (October 1926). Bangkok Times Press, Limited, Bangkok, Thailand, April 1928, 8 pp, illus, map. Reprinted from The Record, No. 28, Bangkok, Thailand, 1928.
- V109-01-02-XGS Thailand Ministry of Commerce and Communications, Report on a Tour in the Provinces of Chumpawn, Langsuan, and Surat, and Summary of Tour with General Notes (December 25, 1926 to April 21, 1927). Bangkok Times Press, Limited, Bangkok, Thailand, September 1928 and March 1929, 13 pp, illus, map. Reprinted from The Record, Nos. 29 and 30, Bangkok, Thailand, September and October 1928.
- V110-01-02-XGS Thailand Ministry of Commerce and Communications, "Report on a tour in the provinces of Surat, Pang-Nga, Krabi, Trang, and Patalung (Feb 16 - May 3, 1930)." The Record, Nos. 43 and 44, Bangkok, Thailand, January and April, 1932, pp 211-232, illus, map.
- V111-01-02-XGS Thailand Ministry of Commerce and Communications, Report on a Tour in the Provinces of Trat and Chantabun (December 16, 1929 - January 13, 1930). Bangkok Times Press, Limited, Bangkok, Thailand, 1931, 8 pp, illus. Reprinted from The Record, No. 42, Bangkok, Thailand.
- V112-01-02-XGS Thailand Ministry of Commerce and Communications, "Report on a tour of the Botanical Section in the circles of Chantaburi and Prachinburi (from November 22, 1924 to January 19, 1925)." The Record, Nos. 21 and 22, Bangkok, Thailand (July and October 1926), pp 337-343 and 387-392.
- V113-01-02-XGS Thailand Ministry of Commerce and Communications, "Report on a tour of the Botanical Section in the circle of Rajaburi (December 28, 1925 - March 19, 1926)." The Record, Nos. 24 and 25, Bangkok, Thailand, April and July 1927, pp 570-578 and 27-34, map.

- V114-01-02-XGS Thailand Ministry of Commerce and Communications, Report on Three Tours in the Provinces of Nakawa Sritamarat, Songkla, Satul, and Patalung (Tour 1, December 21, 1927 to January 31, 1928). Bangkok Times Press, Limited, Bangkok, Siam, September 1929, 12 pp, illus, map. Reprinted from The Record, No. 33, July 1929.
- V115-01-02-XGS Thailand Ministry of Commerce and Communications, Report on Three Tours in the Provinces at Nakawn Sritamarat, Songkla, and Patalung (March 7 - May 16, 1928). Bangkok Times Press, Limited, Bangkok, Thailand, December 1929 and January 1930, 12 pp, illus. Reprinted from The Record, Nos. 34 and 35, Bangkok, Thailand, October 1929 and January 1930.
- V116-01-02-XGLSHC Thailand Ministry of Commerce and Communication, Siam Nature and Industry. Bangkok Times Press, Limited, Bangkok, Thailand, November 1930, 323 pp, illus, maps.
- V117-01-05-X0 Thailand Royal Forest Department, The Forest of Siam. Bangkok, Thailand, 1926, 43 pp.

Not available for review.

- V118-01-02-X0 Thailand Royal Forest Department, Siamese Plant Names. Engtrons, Bangkok, Thailand, 1948.
- USDA  
460.13  
S11

This is the first of a two-part set. It contains 504 pages and has less than 5000 entries of botanical-vernacular names. Part II is a vernacular-botanical listing.

- V119-01-02-X0 Thailand Royal Forest Department, The Forest of Thailand and Forestry Programs. No. R.20, Bangkok, Thailand, 1955, 34 pp, illus.
- ASM  
SD97  
T3T36

This is a handbook concerning the nature of Thailand forests as of 1954. It contains sections on general descriptions of forests, timber trade and consumption data, and the forestry program. A short general description of Thailand covers location, topography, soils, climate, and types and distribution of forest. There is a brief mention of forest inventory work utilizing aerial photographs being conducted by Dr. Fritz Loetsch of Reiebek University, Germany. Some detailed data of sample strips have been taken.

- V120-02-02-X0 Thailand Royal Forest Department, Types of Forest of Thailand. So Sethaputra, Bangkok, Thailand, 1950, 9 pp, map.
- AMS  
SD97  
T3T37



This is a fairly detailed description of the types and distribution of forests in Thailand. The evergreen forests are divided into tropical, hill, coniferous, and mangrove types and the deciduous forests are divided into mixed deciduous and deciduous dipterocarps forest. The species of each type are listed and a brief description of undergrowth, soil type, and elevations associated with each is given. Two minor forest types, beach and swamp, are touched upon. The colored map included was printed by the Thailand Cadastral Survey in 1952 and is entitled "Types of forest." This map is at a scale of 1:2,500,000 and shows the distribution of tropical evergreen, pine, deciduous dipterocarps, moist upper mixed deciduous, dry upper mixed deciduous, lower mixed deciduous, and mangrove forests and savannas. Croplands are left blank. The Khorat Plateau has chiefly deciduous dipterocarps bounded by tropical evergreen which also abound in the peninsula and extreme southeastern Thailand. The northern part of the country is a complicated mixture of forest types. Major communication routes, drainage, and towns are included and the map has 1-deg tick coordinates.

VI21-02-02-X0      Thailand Royal Forest Department, Types of Forest of Thailand, R.44,  
 USDA      Somphong Ampol, Bangkok, Thailand, September 1962, 12 pp, illus, map.  
 99.9  
 S113

This report gives a general description of the forests of Thailand. Approximately 60 percent of the country is covered by forests which can be divided into two categories: evergreen and deciduous. Evergreen forests probably occupy one-third of the area and are classified as coniferous and mangrove forests, while the deciduous forests are divided into mixed deciduous and deciduous dipterocarps. The general location and species composing each type are given briefly. Other types of forest, beach and swamp, are very briefly described. Eight photographs give views of various forest types and a map, "Map of Thailand - types of forest," is included.

This map, at a scale of 1:2,500,000, is colored to show the distribution of tropical evergreen, pine, deciduous dipterocarp, mixed deciduous, and mangrove forests and savanna. The cultivated areas are left blank. Basic information shown in the map includes state highways opened to traffic and under construction, state railways opened to traffic and under construction, international and provincial boundaries, aerodromes, towns, and drainage. The map has 4-deg coordinates, beginning with 5°N and 100°E, with stub coordinates at each degree.

VI22-02-02-XC      Thirawat, Sukhum, Brief Information on the Forestry Situation in Thailand.  
 USDA      No. R.2, Thailand Royal Forest Department, Bangkok, Thailand, November  
 99.9      1953, 48 pp, map.  
 S113

This report, abundantly supplemented with tabulated data, covers a wide range of topics: forest types, climate, forest department organization, forest research, production and exploitation, and export data and revenue. The section on forest types describes eight kinds and contains information on typical species and distribution. Mean monthly rainfall data are given for 15 major cities. The map, at a scale of 1:2,500,000, is entitled "Thailand showing administrative divisions," and it was printed at the Cadastral Survey Office of Bangkok in 1952. The map shows forest circles or region boundaries, forest division boundaries, division headquarters, cultural features, and drainage.

VI23-02-02-XC      Thirawat, Sukhum, Brief Information of Forestry Situation in Thailand.  
 USDA      Bulletin No. R.17, Thailand Ministry of Agriculture, Royal Forest  
 99.9      Department, Bangkok, Thailand, January 1955, 85 pp, map.  
 .T4A3

Thailand is divided into five sections: northern, northeastern, central, eastern, and southern. Mean monthly rainfall, mean minimum and maximum temperature, and monthly and seasonal mean temperatures are given for 11 important stations from 1940 to 1950. There are eight types of forest comprising two basic divisions: evergreen and deciduous. Evergreen, found at all altitudes, can be of four types: tropical evergreen, hill evergreen, coniferous, and mangrove. Deciduous can be either mixed deciduous or deciduous dipterocarps and are rarely found higher than 1000 meters in elevation. Less important types are beach and swamp forests. For each of these types, the distribution, associated climate and geography, and important species characteristics are described. The remaining portions of the text deals with forest department administration, forest control and conservation, timber production, available timber species, and exports.

There are two inclusions: a chart giving the distribution by geographic divisions of 197 timber species and a map entitled "Thailand showing forest administrative divisions" at a scale of 1:2,500,000. The map divides Thailand into four forestry regions which are further subdivided into 21 forest divisions differentiated by color. The base map shows political boundaries, major drainage, railroads, and towns. Although the map is sufficient for its purpose, the limited detail precludes further use.

V124-01-02-XO      Thirawat, Sukhum, "Brief information on the forestry situation in Thailand." Proceedings of the Eighth Pacific Science Congress, vol. 5, Quezon City, Philippines (1959), pp 715- 2.  
AMS  
GS031  
P37p

The congress met in 1953. This is the same article with identical title published by the Thailand Ministry of Agriculture, R.17, January 1955, without the map.

V125-02-02-XS      Thongchuta, Tanit; Nonthabund, Somnug; and Moormann, F. R.; "Report on the soil survey of the site of the proposed agriculture centre near Satani Nam Phong (Khon Kaen Province)." Miscellaneous Soil Reports of the Department of Agriculture, Department of Rice, and the Royal Irrigation Department, No. 10, Thailand Ministry of Agriculture, Bangkok, Thailand (December 1962), 17 pp, illus, maps.

V126-01-03-XO      United Nations Food and Agricultural Organization, Division of Forestry and Forest Products, "Forestry in Asia and the Pacific." Unasylva, vol 2, No. 6, Washington, D. C. (November-December 1948), pp 291-299.  
LC  
SD1  
.U5

This article presents a general outlook on the forestry situation, with some salient points being brought out for the individual countries. The information is given under broad headings of basic knowledge, governments role, and private programs.

V127-02-02-XGHC      United Nations Food and Agriculture Organization, National Committee, Thailand, Thailand and Her Agricultural Problems. Thailand Ministry of Agriculture, Bangkok, Thailand, March 1949, 116 pp, illus, maps.

V128-02-01-XLHC      U. S. Army Engineer Waterways Experiment Station, CE, Environmental Factors Affecting Ground Mobility in Thailand; Preliminary Survey. Technical Report No. 5-628, Vicksburg, Miss., May 1961, 66 pp, illus, maps, appendixes.

V129-01-02-XLHM      U. S. Army Map Service, CE, Far East, Post Reconnaissance Report No. 1962, Bangkok, Thailand, various dates, various pages.

Vegetation, Text

V130-01-02-XGLSHC U. S. Army Map Service, CE, The Military Geography of Southeast Asia and Australia. Engineer Intelligence Survey 85-56, Washington, D. C., May 1957, 20 pp, illus, maps.

V131-01-02-XH U. S. Army Military Attaché, Indochina, Trip Report - Upper Mekong River from Luang Prabang to Vietiane. Report No. R-13-55, February 7, 1955, 5 pp.  
EIF  
245,043

V132-02-02-XCLSH U. S. Army Quartermaster General, Research and Development Division, Environment of Southeast Asia. Environment Protection Division Report No. 219, Natick, Mass., August 1953, 45 pp, illus, maps.

V133-01-03-XO U. S. Consulate, Chiangmai, Thailand, Provincial Forest Companies in North Thailand.\* Desp No. 16, November 13, 1956, 2 pp, illus.  
EIF  
284875

This report is concerned with the organization and future of provincial forest companies in Thailand after the expiration of the foreign teak concessions. The teak areas will then be worked by the Thai Government and foreign concessionaries, the Forest Department, and provincial (Changvat) companies. Of the latter group, only the Prae provincial company is operative although Lampang and Lamphun are organized. Illustrations show the organizational structure of the Lampang and Lamphun Provincial Forest Companies with associated personnel.

V134-01-03-XO U. S. Dept. of Agriculture, Foreign Agricultural Service, "The agricultural situation of Thailand, 1956." Foreign Agriculture Circular,  
USDA FATP 42-56, Washington, D. C. (December 27, 1956), 4 pp.  
A281.9  
F76f

This is a short summation of the agriculture in Thailand which contributes 46 percent of the gross product. Rice is grown on 90 percent of the farms and occupies about 75 percent of the cultivated acreage. Production figures are given for rice, as well as tobacco, fibers, miscellaneous crops, and livestock. Foreign trade percentages for the various crops are given.

U. S. Department of State, American Consulate.

SEE: U. S. Consulate.

U. S. Department of State, American Embassy

SEE: U. S. Embassy, Thailand

V135-01-02-XO U. S. Department of State, Thailand, Agriculture in Southeastern Thailand. 26 June 1950, 3 pp.

V136-01-05-XO U. S. Department of State, Thailand, General Description of Vegetative Cover. Washington, D. C., August 30, 1951, 7 pp.  
USDSt

Not available for review.

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\* For official use only.

V137-01-02-X0

U. S. Embassy, Thailand, Forest Resources and Forestry in Thailand.

Report No. 410, 21 December 1950, 15 pp.

EIF

134,960

USDST

338.B9

2D1307

This report describes the distribution of forest land and the plant life it contains. A list of trees occurring in deciduous dipterocarp forest, with their qualities and uses, and similar lists for tropical evergreen, mixed deciduous, mixed deciduous and evergreen, and tidal lands and swamps are included. The deciduous dipterocarp forests are found throughout the country, the tropical forests are generally limited to the southern or peninsular region, the mixed deciduous north of the 19th parallel, in most areas, the pine forest in northern and northeastern regions over 1000 meters in elevation, and the mangrove forests in swampy areas of the coastal plain.

V138-01-02-X0

U. S. Embassy, Thailand, Forestry in the Southern Region of Thailand.

30 October 1950, 3 pp.

AMS

39,553

This trip was made in the changwad of Choburi, via a logging railway, to the general area of the royally owned Sri-Maharaja Lumber Co. The forests in the area are tropical evergreen, with Yang, Takhian, and Taback being the major types. Yang is evenly distributed, while Takhian is confined to streams. Other vegetation observed was Krabak, Chumpraek, Tasna, Chan, Kabok, Ka-thon, Ma-Kha-Mong, Sathi, and Kankara. Larger undergrowth is palm and cane. Bamboos are not abundant in this region.

V139-02-02-X0

U. S. Embassy, Thailand, Transmittal of "Brief Information on the Forestry Situation in Thailand." Desp No. 422, December 15, 1953, 1 p.

DIA/DL

EIF

217585

This is a letter of transmittal for Thirawat's "Brief information on the forestry situation in Thailand," November 1953, which included a map showing Forest Administrative Divisions. See Thirawat's same title dated 1955.

V140-01-02-X0

U. S. Navy, Bureau of Yards and Docks, Native Woods for Construction Purposes in the South China Sea Region. Navdocks P-163, Washington, D. C., 1945, 277 pp.

AMS

HD9766

A2058

This reference includes the countries of Burma, Malaya, Thailand, Sumatra, Java, Borneo, French Indochina, and southeast China, including Hainan and Formosa. It contains information on sample collection of wood, strength of wood, durability of wood, thatch materials, descriptions of trees and their woods, and a glossary of botanical and technical terms. The descriptions include local names, habit, leaves, fruit, bark, wood, and occurrence. Black and white drawings are furnished for leaves, flowers, and fruit. This appears to be a useful reference for identification of species.

V141-02-02-XLSHC

University of Michigan, Department of Geography, Analysis of Geographic and Climatic Factors in Southeast Asia. Office of Research Administration Report No. 04231-1-P, Ann Arbor, Mich., March 1962, 178 pp, maps. (Prepared under U. S. Army Quartermaster Research and Development Command Contract No. DA-19-129-GM-1655.)

V142-01-02-X0

Valkenburg, Samuel van, "Agricultural regions of Asia; part III. farther India." Economic Geography, vol 9, No. 1, Coccord, N. H. (January 1933), pp 1-18, maps.

Vegetation, Text and Maps

V143-01-02-XO            Wanandorn, Winit, "Notes on introduced plants in Siam." Journal of the Siam Society, Natural History Supplement, vol 9, No. 1, Bangkok, Thailand (1933), pp 89-107.  
LC  
DS561  
.T5

This is a sequel to an article by Dr. A. Kerr. As in the previous article, the generic name, common name, time of introduction, and plant source are given for approximately 60 plants. Descriptions of plants are not included.

V144-01-03-XO            Wickizer, Vernon Dale and Bennett, M., The Rice Economy of Monsoon Asia. Food Research Institute, Stanford University, Stanford, Calif., November 1941, 358 pp, illus, maps. (Published in cooperation with the International Secretariat, Institute of Pacific Relations.)  
LC  
HD9066  
.A2W5

This is the first complete work in the investigation of the economy of rice cultivation and its position in agriculture, trade, and consumption in monsoon Asia. It is very comprehensive and covers such subjects as environment of the world rice economy, exports and price scales, and potentialities and trends for expansion. Numerous graphs give production, price, imports, and export details to accompany the various sections, and small-scale maps show rice production and per capita consumption ... monsoon Asia.

V145-01-02-XSC           Williams, Idelvyn, Thailand Survey of Vegetation. Agricultural Research Service, U. S. Department of Agriculture, unpublished, March 5, 1964, 43 pp, map.

This survey was conducted during 4 November 1963-20 January 1964 as part of an overall program of Mobility and Environmental Research Studies in Thailand. Its purpose was to determine the distribution, characteristics, and composition of various Thailand forest types in order to establish correlations between the vegetation of Thailand and adjacent areas of Southeast Asia, Puerto Rico, and the continental United States. Background for the study is provided with brief discussions of the five physiographic provinces, soils, climates, agriculture, and communication routes.

Approximately 60 percent of Thailand is occupied by forest and these can be divided into the broad categories of evergreen and deciduous. The evergreen forests are further subdivided into wet evergreen (rain), hill evergreen, coniferous, and mangrove forests while the deciduous forests are divided into mixed deciduous and deciduous dipterocarp types. In addition to these major forest types, littoral vegetation, swamp forests, savannas, and bamboo forests are considered worthy of limited discussion.

The article is concluded with an explanation of field methods and data collection, and recommendation that studies be continued. The collected data contains spacing identification, quantitative stem descriptions, notes on litter, soils samples, visibility measurements, and light penetration of the canopy. None of these data are included.

A small-scale map locates 14 well-distributed areas in Thailand where investigations were made by the author.

Maps

V146-03-05-XO            "Agricultural and industrial maps (Thailand)." 1:5,000,000, 1963.  
CIA/ML  
147,153

Not available for review.

V147-03-02-XO            Axelrod, D. I., "Coastal vegetation of the world." 1:50,000,000, University of California Press, Los Angeles, Calif., 1958. (Prepared under ONR contract Nonr-233-56, NR388-013.)

This colored map is drawn on a Briesmeister Elliptical Equal Area Projection as copy-written in 1952 by the American Geographical Society of New York. It depicts vegetative classes within 70 miles of the coast for all areas of the world except Antarctica. Classes shown are: tropical forest, tropical savanna, tropical scrub, tropical shore-woodland, temperate forest, evergreen shrubland, grassland tundra, desert, and a miscellaneous class composed of salt flats plus swamps and marsh grass. Most of these classes are further subdivided into a vegetation type with a characteristic color. All MERS areas, except the Gulf of Siam, the Mekong floodplain, and the Fienve Rouge floodplain, which are tropical scrub, are classed as tropical forest of the Malayan (evergreen rain forest) type.

V148-03-02-XC      Failey, H. P., "Coastal climates of the world." 1:50,000,000, University of California Press, Los Angeles, Calif., 1958. (Prepared under ONR contract Nonr-233-06, Nr398-013)

V149-03-02-XO      Bourke-Borrows, D. R. S., "Sketch map showing main teak bearing localities in Northern Siam." 1:1,000,000, Siam Ministry of Commerce and Communications, Bangkok, Siam, October 1927.

SEE: Bourke-Borrows, D. R. S., "The teak industry of Siam." Technical and Scientific Supplement to the Record, No. 3, Siam Ministry of Commerce and Communications, Bangkok, Siam (October 1927), 52 pp. illus., map.

V150-03-02-XL      Canadian Aero Service, Limited, "Pa Mong Dam site (upper)." 1:1000, Ottawa, Ontario, Canada, 1961.

V151-03-02-XL      "Commission de Delimitation on Entre l'Indochine et le Siam and Commission de Delimitation de la Frontiere Entre l'Indochine et le Siam," 1:200,000, 1904 and 1907-08.

V152-03-05-XO      "Forest areas of central Siam." 1:750,000, 1949.

Not available for review.

V153-03-02-XL      Great Britain Directorate of Military Survey, "Siam Kra Isthmus," 1:63,360, 1945-1960.

V154-03-02-XOS      Great Britain Foreign Office, "Siam agriculture." 1:5,000,000, London, England, 1945.

SEE: Great Britain Foreign Office, Siam Basic Handbook, London, England, 1945, 147 pp. maps, in the general section.

V155-03-02-XO      Great Britain Inter-Service Topographical Department, "Thailand suitability for military operations." 1:4,000,000, C.B. 5028, January 1947.

CIA/ML  
H03-16  
50539

This map portrays Thailand as it existed before the disputed territories were returned to Laos and Cambodia. It shows regional boundaries, the general trend of mountains, areas of cultivation, scrub and light jungle, subtropical forest, tropical jungle, marshes, rivers, railways, roads, tracks, coastal landing places, and beaches. The map has 2-3 even coordinates.

V156-03-03-XO      Great Britain Office of Strategic Services, Map Division, "European tea forest concessions in Northern Thailand." 1:2,000,000 (approx), London, England, n.d.

CIA/ML  
H03-16  
64445

## Vegetation, Maps

This map is a photocopy of a crude colored map showing teak concessions of five companies in Thailand north of Nakhon Sawan. Other information shown is on roads, railroads, drainage, and towns.

V157-03-02-XL Great Britain War Office and Air Ministry, Department of Survey, "Malaya and Southern Thailand." 1:63,360, GSGS 4690, 1910-1960.

V158-03-02-XL India Directorate of Military Survey, "Malaya." 1:253,440. various dates.

V159-03-02-XL India Directorate of Military Survey, "Maps of Thailand." 1:253,440, 1934-46.

V160-03-02-XL India, Survey of India Department, "Burma-Thailand." 1:126,720, 1941-42.

V161-03-02-XL Japanese Army, I-1160 Unit, "Aerial photo survey maps." 1:50,000, 1944.

V162-03-02-XL Japanese Army, I-1160 Unit, "Aerial photo survey sketch maps of Thailand." 1:100,000, 1945.

V163-03-02-XL Japanese Army, I-1160 Unit, "Aerial photo survey sketch Thailand French Indo-China Nagorn Bhanom vicinity." 1:25,000, 1944.

V164-03-02-XL Japanese Army, General Staff, "Thai-Burma international boundary map." 1:100,000, 1941-1942.

V165-03-02-XL Japanese Army, General Staff, "Thailand and Burma." 1:50,000, 1941.

V166-03-02-XL Japanese Army, General Staff, "Thailand military maps." 1:50,000, 1941-1942.

V167-03-02-XL Japanese Army, OKA 1601 Unit, "Thailand Kra Isthmus vicinity." 1:25,000, 1943.

V168-03-02-XL Japan Imperial Land Survey, "Map of Thailand." 1:36,900, 1941.

V169-03-02-XL Japanese Southern Army, "Sketch for construction of railroad between Ban-pong and Bhangga." 1:20,000, 1943.

AMS/XL  
SL-21-30.00  
M113-00

These 15 monochrome sheets are printed in Japanese and cover the proposed railway route from Ban Pong, Thailand, through Three Pagodas Pass, and to Bhangga, Burma. Individual sheets cover 5 minutes of longitude, irregular latitudes, and have no coordinates. The sheet examined had a translated legend which gave fields, paths, motor roads, railroads, houses, towns, orchards, woods (deciduous and bamboo), mud flat and marsh, cliff, grassland and/or uncultivated field, irrigated rice fields, dry rice fields, lakes, rivers, and temples within the narrow band mapped along the proposed route.

V170-03-02-XL Charachang Company, Limited, Printing Shop, "Thailand." Bangkok, Thailand. 1:2,500,000, 1940.

AMS/XL  
SL-21-30.00  
M113-00

This colored map is printed in Thai and appears to be a detailed economic product map. Forty-nine products are listed in the legend of which rice and teak areas are recognizable and others seem to be crops, livestock, and mineral resources. Political boundaries, drainage, lines of communication, and towns are included. The map has 2-deg (odd) coordinates.

V171-03-02-X0                      The London Geographical Institute, "Asia natural vegetation." 1:12,000,000,  
CIA/ML                              George Philip and Son, Limited, London, England, no date (cataloged  
H000-33                              December 1941).  
35823

This colored map shows units of ice desert, tundra and alpine flora, coniferous forest, broad-leaved deciduous forest and meadow, evergreen trees and shrubs, temperate grasslands, monsoon subtropical forest and meadow, equatorial rain forest and monsoon tropical forest, and swamp and marsh. With the exception of the extreme northern portion of Burma which has units of ice desert, tundra and alpine flora, and coniferous forest, the entire MERS study area is mapped as broad-leaved deciduous forest and meadow, tropical grasslands, monsoon subtropical forest and meadow, and equatorial rain forest and monsoon tropical forest. Country boundaries, major drainage, and larger towns are included as basic information. The map has 10-deg coordinates.

V172-03-02-XLC                      Macmillan and Company, Limited, "Macmillan's atlas for Southeast Asia."  
London, 1960, 32 pp.

V173-03-02-X0                      Mahaphol, Swadi, "Map showing the main teak regions of Thailand."  
1:2,500,000, Thailand Royal Forest Department, Bangkok, Thailand, 1954.

SEE: Mahaphol, Swadi, Teak in Thailand. No. R.16, Thailand Royal  
Forest Department, Bangkok, Thailand, 1954, 31 pp, illus, maps.

V1 4-03-02-X0                      Malhipur Branch Press, "India, Pakistan, Ceylon, and Burma, natural  
CIA/ML                              vegetation." 1:4,300,000, Saharanpur, India, n.d.

H300-33  
137902

This colored map covers the geographic area of approximately 60°E to 102°E and 6°N to 36°N. It shows the areal extent of woodland, forest, jungle, scrub and rough grazing, arable (dry land sometimes irrigated), paddy (wet land seasonally flooded), arable land intermingled with scrub, and arid wasteland. General information shows towns, political boundaries, and major drainage. The map is highly generalized and appears to be based on climatic information. The map has 4-deg coordinates.

V175-03-03-X0                      "Map of the chief forests of Northern Siam." 1:850,000, December 31,  
CIA/ML                              1925.

H503-33  
63844

The original of this map was prepared in four colored sheets, but the photocopies now available simply appear in shades of indistinguishable grey. The map shows teak concessions, drainage, towns, international boundaries, and the operating companies by initial only. The map covers the area north of 15°30'N and west of 102°30'E. The map has 1-deg coordinates.

V176-03-02-X0                      Montrakun, Sarot and Moormann, F. R., "Huai Si Thon project land use map."  
1:19,350 ± 150, Thailand Ministry of Agriculture, Bangkok, Thailand,  
June 1962.

SEE: Montrakun, Sarot and Moormann, F. R., "Report on the soil survey  
of the Huai Si Thon irrigation project." Miscellaneous Soil  
Reports of the Department of Rice, Department of Agriculture, and  
the Royal Irrigation Department. No. 5, Thailand Ministry of  
Agriculture, Bangkok, Thailand, June 1962, 19 pp, illus, maps.



Vegetation, Maps

V177-03-02-XC      Perry, R. E., Macmillan's Atlas for South East Asia. Macmillan and Co.,  
London, England, 1962, 32 pp, maps.

CIA/ML  
SH500  
.M167

This atlas contains 32 pages of small-scale colored maps illustrating physical features, natural vegetation, political boundaries, seasonal rainfall, and wind currents of the world and physical features, economic divisions, temperature and rainfall, population distribution, political structure, and natural vegetation of Asia.

V178-03-05-X0      "Siam vegetation." 1:9300, 1944.

Not available for review.

V179-03-02-X0      Snitwongs, Prompan, "Land use map of the area of Tha Phra agricultural station." 1:10,000 (approx), Thailand Ministry of Agriculture, Bangkok, Thailand, June 1963.

SEE: Snitwongs, Prompan, "Report on the soil survey of Tha Phra agricultural station and surroundings (Khon Kaen Province)." Miscellaneous Soil Reports of the Department of Agriculture, Department of Rice, and the Royal Irrigation Department, No. 15, Thailand Ministry of Agriculture, Bangkok, Thailand (June 1963), 8 pp, illus, maps.

V180-03-03-X0      Thailand Cadastral Survey Office, "Thailand showing administrative divisions." 1:2,500,000, Bangkok, Thailand, 1952.

SEE: Thirawat, Sukhum, Brief Information on the Forestry Situation in Thailand. No. R.2, Thailand Royal Forest Department, Bangkok, Thailand, November 1953, 48 pp, map.

V181-03-03-X0      Thailand Cadastral Survey Office, "Thailand showing forest administrative division." 1:2,500,000, Bangkok, Thailand, 1952.

AMS/ML  
5L-1-12.10  
36317-2.500/2

SEE: Thirawat, Sukhum, Brief Information of Forestry Situation in Thailand. Bulletin No. R.17, Thailand Ministry of Agriculture, Royal Forest Department, Bangkok, Thailand, January 1955, 85 pp, map.

V182-03-02-X0      Thailand Ministry of Agriculture. "Corp map of Thailand." 1:1,000,000, Bangkok, Thailand, 1961.

CIA/ML  
H503-27  
137647

The three colored sheets of this map were prepared using the AMS series 1301, 1:1,000,000 maps as a base and topographic features are shown as well as the corp types. The map was prepared from aerial photographs, agricultural statistics, and forestry data. It is one of the better efforts encountered in this study. Crop units mapped are rice, rubber, sugar cane, fiber crops of jute and kenaf, soybeans, peanuts, mung bean, and cotton. Completing the map is a forest unit.\* The map has 1-deg coordinates.

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\* The forest unit is categorized in the accompanying map, "Types of forest in Thailand," issued by the Thailand Royal Forest and Survey Departments.

V183-03-02-XO

Thailand Ministry of Commerce, "Thailand, showing the location of principal products." No scale, no date.

CIA/ML  
H503-27  
70247

This colored map of Thailand outlines rice, tin, and teak areas. Generally, the Mcnam Chao Phraya plain and the Khorat Plateau are shown as rice-growing areas; peninsula Thailand is shown as a tin-producing area, and northern or northwestern Thailand is shown as a teak area. Spot locations are shown for various other products including gold, cattle, swine, poultry, hides and skins, rubber, fish, salt, gems, cotton, and sticklac. This is a very generalized map without coordinates.

V184-03-02-XS

Thailand Royal Department of Mines, "Map of Thailand showing mineral resources protected and reserved forests." 1:2,500,000, Bangkok, Thailand, July 1957.

V185-03-02-XS

Thailand Royal Department of Mines, Geological Survey, "Resources map of Siam." 1:2,500,000, Bangkok, Thailand, 1934.

V186-03-03-XO

Thailand Royal Forest Department, "Forest monopoly of the Thai Padung Sin Company, Limited (Forestry Section)," 1:75,000, 195?.

CIA/ML  
H503-27  
122679

This photostat is printed in Thai and covers the geographic area of 14°10'N to 14°40'N and 101°E to 101°20'E. It appears to show six divisions of the monopoly, towns, drainage, and communications systems.

187-03-02-XO

Thailand Royal Forest Department, "Forest types of Siam." 1:10,000,000, Thailand Ministry of Agriculture, Bangkok, Thailand, 1949.

CIA/ML  
H503-33  
61497

SEE: United Nations Food and Agriculture Organization, National Committee, Thailand, Thailand and Her Agricultural Problems.  
Thailand Ministry of Agriculture, Bangkok, Thailand, March 1949, 116 pp, illus, maps.

V188-03-02-XO

Thailand Royal Forest Department, "Forest types of Thailand." 1:10,000,000, Thailand Ministry of Agriculture, Bangkok, Thailand, 1957.

SEE: Thailand Ministry of Agriculture, Agriculture in Thailand.  
Bangkok, Thailand, 1957, 263 pp, illus, maps.

V189-03-03-XO

Thailand Royal Forest Department, "Map of teak forest." 1:800,000, 1958.

CIA/ML  
H503-27  
116039

This hand-colored map shows teak concessions and identifies the six concessionaires of the teak areas of Thailand. Companies listed are Joint Co., Forest Industry Organization, Provincial Forestry Companies, Korean War Veteran Co., First World War Veteran Co., and Kasetsart University.

Vegetation, Maps

V190-03-02-X0      Thailand Royal Forest Department, "Map of Thailand - types of forest."  
1:2,500,000, Bangkok, Thailand, September 1962.

SEE: Thailand Royal Forest Department, Types of Forest of Thailand.  
R.44, Somphong Ampol, Bangkok, Thailand, September 1962, 12 pp,  
illus, map.

V191-03-02-X0      Thailand Royal Forest Department, "Types of Forest." 1:2,500,000,  
CIA/ML      Thailand Cadastral Survey, Bangkok, Thailand, 1950.  
H503-33  
76317

This map is identical to the one included in the Department's publication Types of Forest of Thailand, 1950.

V192-03-02-X0      Thailand Royal Forest Department, "Types of forest." 1:2,500,000,  
AMS/ML      Thailand Cadastral Survey Office, Bangkok, Thailand, 1952.  
5L-1-12.10  
36317-2.500

SEE: Thailand Royal Forest Department, Types of Forest of Thailand.  
So Sethaputra, Bangkok, Thailand, 1950, 9 pp, map.

V193-03-02-X0      Thailand Royal Forest and Survey Departments, "Types of forest in  
AMS/ML      Thailand." 1:1,000,000, Bangkok, Thailand, March 1961.  
5L-1-12.10  
36322-1.000

The three colored sheets of this map were prepared using the AMS series 1301, 1:1,000,000 maps as a base and topographic features are shown as well as the forest types. Forest units mapped are tropical evergreen, pine, deciduous dipterocarp, mixed deciduous, and mangrove. Savannas are also shown and the cultivated areas are left blank. The crop types for the cultivated areas are defined in the Thailand Royal Survey Department's map entitled "Crop map of Thailand." The map has 1-deg coordinates.

V194-03-02-XL      Thailand Royal Irrigation Department, "Map of the Kingdom of Siam  
showing the catchment area," (in three sheets). 1:1,000,000, Bangkok,  
Thailand, no date (accession date 1959).

V195-03-02-X0      Thailand Royal Survey Department, "Map of environs of Krung Thep Bangkok."  
AMS/ML      1:5,000, Bangkok, Thailand, 1921-1956(?).  
5L-23-29.00  
36301-5

The 202 sheets in this series are printed in Thai. The series covers a strip approximately three minutes wide along either side of the Chao Phraya from the Gulf of Thailand to 13°50'N and then along the railway to Don Muang. Two sheets were examined and show drainage, roads, cultural features, and vegetation. Areal extent of five vegetation types is shown and spot locations are given for eight others. The maps examined appear to be detailed and well prepared.

V196-03-02-XL      Thailand Royal Survey Department, "Map of the Royal Kingdom of Siam."  
1:250,000, Bangkok, Thailand, 1923 (printing date 1932).

- V197-03-02-XL Thailand Royal Survey Department, "Maps of Thailand." 1:25,000, Bangkok, Thailand, 1936-1954.
- V-198-03-02-XL Thailand Royal Survey Department, "Maps of Thailand." 1:100,000, Bangkok, Thailand, 1909-1951.
- V199-03-02-XO Thailand Royal Survey Department, "Menam River, Bangkok and vicinity." 1:50,000, Bangkok, Thailand, 1910.  
AMS/ML  
SL-20.20  
36301-50
- This colored map with 10-minute coordinates is printed in Thai and covers the geographic area of 100°20'E to 100°40'E and from the Gulf of Siam to 14°N. The map shows cultural features, drainage, five units of vegetation, telegraphy system, railways, and highways (major, minor, and food-paths).
- V200-03-02-XL Thailand Royal Survey Department, "Thailand." 1:50,000, Bangkok, Thailand, 1910-1957.
- V201-03-02-XL Thailand Royal Survey Department, "Thailand." 1:200,000, Bangkok, Thailand, 1917-1955.
- V202-03-02-XL Thailand Royal Survey Department, "Thailand." 1:500,000, Bangkok, Thailand, 1941-1955.
- V203-03-02-XL Thailand Royal Survey Department, "Topographical map area of Phamong Dam site, Mekong River, Changwat Nongkhai." 1:20,000, Bangkok, Thailand, December 15, 1959.
- V204-03-02-XO Thongchuta, Tanit; Nonthabund, Somnug; and Moormann, F. R.; "Land use map of the Nam Phong Agricultural Centre site." 1:19,000 ± 250, Thailand Ministry of Agriculture, Bangkok, Thailand, December 1962.
- SEE: Thongchuta, Tanit; Nonthabund, Somnug; and Moormann, F. R.; "Report on the soil survey of the site of the proposed agriculture centre near Satani Nam Phong (Khon Kaen Province)." Miscellaneous Soil Reports of the Department of Agriculture, Department of Rice, and the Royal Irrigation Department, No. 10, Thailand Ministry of Agriculture, Bangkok, Thailand, December 1962, 17 pp, illus, maps.

Vegetation, Maps

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- V205-03-02-XH United Nations Food and Agriculture Organization, "Map of Siam; vegetation types and irrigation projects." 1:7,875,000, FAO Chart No. 203, Washington, D. C., September 1948.
- SEE: United Nations Food and Agriculture Organization, Report of the FAO Mission for Siam. Washington, D. C., September 1948, 125 pp, illus, maps.
- V206-03-02-XG United Nations Food and Agriculture Organization, "Teak distribution in Northern Siam." 1:3,750,000, FAO Chart No. 204, Washington, D. C., 1946.
- SEE: United Nations Food and Agriculture Organization, Report of the FAO Mission for Siam. Washington, D. C., September 1948, 125 pp, illus, maps.
- V207-03-02-XL U. S. Army Map Service, CE, "Burma." 1:250,000, Washington, D. C., 1955-1963.
- V208-03-02-XL U. S. Army Map Service, CE, "Burma." 1:250,000, Washington, D. C., various dates. (Plastic Relief)
- V209-03-02-XL U. S. Army Map Service, CE, "Cambodia." 1:50,000, Washington, D. C. various dates.
- V210-03-02-XL U. S. Army Map Service, CE, "Indochina and Thailand." 1:250,000, Washington, D. C., various dates.
- V211-03-02-XL U. S. Army Map Service, CE, "Indochina and Thailand." 1:250,000, Washington, D. C., various dates. (Plastic Relief)
- V212-03-02-XL U. S. Army Map Service, CE, "Laos." 1:50,000, Washington, D. C., various dates.

- V213-03-02-XL U. S. Army Map Service, CE, "Thailand." 1:50,000, Washington, D. C., various dates.
- V214-01-04-XL U. S. Army Map Service, CE, U. S. Army Map Supply System Catalog; Asia, Australia, and the Pacific: Medium and Large Scale (1:600,000 and Larger).\* Washington, D. C., 1964, 190 pp.
- V215-03-02-XL U. S. Army Map Service, CE, "World." 1:1,000,000, Washington, D. C., various dates.
- V216-03-02-XO U. S. Army Quartermaster General, Research and Development Division, "Laos-Thailand area vegetation (generalized)." 1:8,250,000, Natick, Mass., August 1953.  
  
SEE: U. S. Army Quartermaster General, Research and Development Division, Environment of Southeast Asia. Environment Protection Division Report No. 219, Natick, Mass., August 1953, 45 pp, illus, maps.
- V217-03-02-XLSC U. S. Army Service Forces, Headquarters, Atlas of World Maps. Army Specialized Training Program, Army Services Forces Manual M-101, Washington, D. C., November 1943, 13 pp, 30 plates.
- V218-03-02-XO U. S. Central Intelligence Agency, Cartographic Division, "Indochina and Northeast Thailand economic activity." 1:4,500,000, March 1961.  
  
CIA/ML  
29840-pub
- V219-03-02-XO U. S. Central Intelligence Agency, Cartographic Division, "Thailand major resources."\* 1:3,500,000, Washington, D. C., September 1964.  
  
AMS/ML  
5L-1-9.00  
90184-3.500

This colored map shows areal extent of rice and fishing and spot locations for rubber, chromite, coal, iron, lead and zinc, phosphate, and tin deposits; cement chromite-processing, cotton-textile, and tin-processing plants; distilleries; engineering and iron-and-steel works; shipbuilding locations; and vehicle repair shops. All that is shown for northeast Thailand is rice-growing areas. The map shows railroads, roads, towns, drainage, international boundaries, and 5-deg coordinates.

This colored map shows the areal extent of rice, rubber, and teak, and spot locations of tin mines in the peninsula. Political boundaries, roads, railroads, cities, and drainages are shown as general information. The map has 2-deg (even) coordinates.

Vegetation, Maps

V220-03-02-X0            U. S. Department of Agriculture, Office of Foreign Agricultural Relations,  
CIA/ML                    "Thailand rice and rubber areas." No scale, Negative 1776, n.d.  
H503-1  
51742

This map shows the general outline of the major rice- and rubber-growing areas of Thailand. The map has 2-deg (even) tick coordinates.

V221-03-03-X0            U. S. Geological Survey, Military Geology Branch, for Office, Chief of  
CIA/ML                    Engineers, "Thailand crop cultivation from 1940 to the present."  
H503-1                    1:2,000,000, 1949.  
76205

These three hand-colored sheets show changvats having cotton, maize, and pulse acreage in excess of 800 hectares. They show national and changvat boundaries and capitals; standard- and narrow-gauge railroads; all-weather, limited all-weather, and fair-weather roads; and tracks or trails. A glossary is included, and the maps have 2-deg even coordinates.

V222-03-02-X0            U. S. Geological Survey, Military Geology Branch, for Office, Chief of  
AMS/ML                    Engineers, "Thailand major forest types." 1:3,200,000, November 1952.  
5L-1-12.10  
90183-3.200

This colored map shows the areal extent of mixed deciduous, evergreen, deciduous dipterocarp, coniferous and mangrove forests, and savanna. The blank areas in the map are supposedly cultivation. Other information shown is major political boundaries, drainage, and towns. A glossary is included.

V223-03-02-X0            University of Michigan, Department of Geography, "Coastal Southeast Asia  
generalized vegetation." 1:14,400,000, Ann Arbor, Mich., March 1962.

SEE: University of Michigan, Department of Geography, Analysis of  
Geographic and Climatic Factors in Coastal Southeast Asia.  
Office of Research Administration Report No. 04231-1-P, Ann  
Arbor, Mich., March 1962, 178 pp, maps. (Prepared under U. S.  
Army Quartermaster Research and Development Command Contract  
No. DA-19-129-3M-1655.)

**HYDROLOGIC GEOMETRY SECTION**



Text

H1-02-02-X0

USBR

127.99:

167.-OT/

8-1-956

Ahlf, August L., Technical Record of the Design of the Greater Chao Phraya Project of Thailand. Unpublished, U. S. Bureau of Reclamation, Denver, Colo., August 1, 1956, 49 pp, illus, maps.

This comprehensive detailed report first gives general statements relating to the scope of the project, benefits, and principal features. Following, under the broad topics of irrigation and drainage, water and land transportation, and flood-control systems, specific detailed descriptions are given on individual sections covering canals, spillways, irrigation regulation, flooding, drainage, regulation and navigation structures, etc. In addition to numerous graphs, tables, specifications drawings, and cross sections, four maps are included. Three of these, "Map of greater Chao Phraya project of Thailand, showing principal features, irrigation systems, and flood-control features," are at a scale of 1:700,000 and cover the central portion of the Bangkok Plain from just north of Chainat southward. The first shows areas adequately served now, areas to receive direct benefit from the dam, and areas of additional irrigation from the dam. The second map shows areas fully regulated, flooded without regulation, early season regulated and late season flooded, and controlled flooding. The third defines various flood control reaches as discussed in the text. Each of these also show highways, railroads, headworks, towns, and divisions of the project. The fourth, "Greater Chao Phraya project distribution system map showing canals and distributaries structures," is at a scale of 1:200,000 and covers the same areas as the first three. It shows project subdivisions, canals with keys to the text, locations of regulator and siphons, roads, railroads, towns, and drainage. None of the maps have coordinates.

H2-01-05-X0

Ahlf, August L. and Franich, Kanok, Feasibility of Ponding Water Upstream from Chao Phraya Dam at Chainat. Unpublished Memorandum to Director General, Thailand Royal Irrigation Department, Bangkok, Thailand, July 25, 1952.

Not available for review.

H3-01-02-XIV

DIA/DL

KIP

323067

Allied Geographical Section, Southwest Pacific Area, Ad Hoc Report, Siam Report No. 10. July 12, 1944, 18 pp.

H4-02-02-XSCV

AMS

TC913

T3B16

Baker, Vernon W. and Stanley, William R., A Special Review of the Tank Irrigation Program in Northeast Thailand. United States Operation Mission, Bangkok, Thailand, July 7, 1955, 30 pp, illus, maps.

This report is the result of an engineering and economic survey of the tank irrigation program in northeast Thailand. It contains sections on general characteristics, early irrigation developments, tank irrigation programs, hydrology and climate, and various facets of the tank irrigation projects. This region, representing about one-third of Thailand, is an undulating plateau containing low-lying hills and wide, sloping valleys. Most of the area is drained by the Chi and Mun Rivers. Soils of the area vary from fine, sandy loams to clays and all are low in fertility. Many areas are underlain with lateritic materials, some of which are at very shallow depths. Most cultivation is lowland rice with the noncultivated land being forested and having an undercover of native grasses. Three seasons (rainy, dry, and transitional) occur with September being the month of highest rainfall. All discussions are in general terms with few figures given. Photographs illustrate various construction methods. Graphs and tables give capacity, cost, economic benefits, etc., of various projects. Two maps, at a scale of 1:1,170,000, are entitled "Area and population of provinces" and "Northeast irrigation region showing tank irrigation projects and perennial flowing streams with minimum discharges." The latter map, hand colored, shows tank irrigation projects completed and under construction for irrigation and domestic use, proposed tank projects, projects visited, and approximate minimum flow of perennial streams. Drainage, railroads, roads and towns are shown as general information.

H5-01-02-X0 Baladeb, Shao, "Reclamation and irrigation in Siam." Mid-Pacific Magazine, vol. 34, No. 1, Honolulu, Hawaii (July 1927), pp 49-56, illus.

This article is concerned with the deltaic tracts of the Menam Chao Phraya, known as the Central Plain of Thailand. It describes rice production and improved irrigation and production methods, principally through a network of canals to be built, and briefly relates what has been done in the past for improvement.

H6-01-02-X0 Baladele, Chao Phya, "Reclamation and irrigation in Siam." Pan Pacific Conference on Education, Rehabilitation, Reclamation, and Recreation, 1st Proceedings, Honolulu, Hawaii (1927), pp 355-362.

This is the first report of its kind concerning the establishment of the Thailand Royal Irrigation Department. The need to stabilize, increase, and improve the rice production has been of primary importance for a number of years. It is especially important if Thailand is to compete with the other major rice-growing countries, which receive more rainfall. Thailand's average rainfall in the rice-growing area is actually less than that necessary to produce a crop and if this deficiency is not made up with floodwaters, a crop failure results. Irrigation works are traced from the Rangsit project, which was constructed in 1896 to 1927. The Thailand Royal Irrigation Department was organized in 1904, discontinued in 1912, and reorganized in 1914. The works of Mr. J. Homan van der Heide and Sir Thomas Ward are discussed. It is expected that the scheme devised for the irrigation of the Central Plain of Thailand will take a long time to complete and the overall results will not be known until then. Discussions are general and no supporting data are given.

H7-01-02-XGLSVC Blanchard, Wendell, Thailand, Its People, Its Society, Its Culture. HRAF Press, New Haven, Conn., 1957, 258 pp, maps.

H8-01-02-XGLSVC Bowring, Sir John, The Kingdom and People of Siam; with a Narrative to the Mission to That Country in 1855. 2 volumes, John W. Parker and Son, London, England, 1857, 482 and 446 pp, illus, map.

British

SEE: Great Britain

H9-01-02-X0 Brocklebank, R. A., Mekong River Survey. Hunting Survey Corporation, Limited, Toronto, Canada, March 1961, 10 pp, map.

DIA/DL  
KIF  
366794

This paper was prepared for and presented at the 27th annual meeting of the American Society of Photogrammetry, held on March 21, 1961 in Washington, D. C. It presents general information on the survey program which was divided into ground-control surveys, aerial photography, and topographic mapping. For each of these topics, organization, transportation and communication networks, and field surveys are discussed. Six Canadian firms are working on the project, and the close cooperation and timing are stressed.

H10-01-02-X0 Brocklebank, R. A., "Southeast Asia: the Mekong River aerial survey project." Vietnam Press, Saigon, South Vietnam (December 1, 1960), 10 pp.

SEE: U. S. Navy, Naval Attaché, South Vietnam, Southeast Asia: The Mekong Aerial Survey Project. Serial No. 276-40, December 23, 1960, 10 pp.

HL1-01-03-XO Brudhikrai, Luang Joldhan, "Development of hydrographic work in Siam from the beginning up to the present." The International Hydrographic Review, vol. 24, Monaco (1947), pp 48-53.

This article presents a brief summary of hydrographic work in Siam. The work is divided into four periods: 1856-1911, 1912-March 1926, April 1926-August 1945, and August 1945-1947. The actual organized survey of Siamese waters was initiated in 1912 as the previous work had been done by foreign naval officers on loan to the Siamese government. The article is primarily concerned with the chronology of organization, training, and personnel. No charts or publications are noted.

HL2-01-02-XO Burma Technology Survey Group, Report on Southeast Asia River Systems.  
SRI No. 10, sponsored by the Japan Shipping and Export Association, Tokyo, Japan, August 7, 1959, 61 pp, illus.  
DIA/DL  
KIP  
347550

This is a detailed river transportation evaluation as of 1958. The report is presented in two parts. The first part goes into the details of industry, economy, and water transportation for the Mekong, Chao Phraya, Irrawaddy, and Chindwin rivers, and the second part discusses the craft used on the rivers. This study was conducted to determine the feasibility of using on the four rivers certain river craft designed by the Japan Shipping and Export Association. Facilities and techniques are stressed more than the waterways themselves. The characteristics of the rivers are briefly discussed, and very generalized descriptions are given concerning the water-level differences during the rainy and dry seasons.

HL3-01-02-XVL Burton, Robert E., "The rice toilers of Thailand." Pacific Discovery, vol 13, No. 5, Berkeley, Calif. (September-October, 1960), pp 4-15, map.

HL4-01-01-XO Charoensook Dusrong, "Analysis of a flood-producing storm." Field Methods and Equipment Used in Hydrology and Hydrometeorology, United Nations Economic Commission for Asia and the Far East, ST/ECAFE/SER.F/22, New York, N. Y., 1962, pp 115-119.

SEE: United Nations Economic Commission for Asia and the Far East, Field Methods and Equipment used in Hydrology and Hydrometeorology, ST/ECAFE/SER.F/22, New York, N. Y. (1962), 127 pp, illus.

HL5-01-02-XGLSVC Credner, Wilhelm, Siam, das Land der Tai. J. Engelhorn's Nachf., Stuttgart, Germany, 1935, 422 pp, illus, maps.

HL6-01-02-XGLSVC Credner, Wilhelm, Siam, das Land der Tai. (Translated by Miss Collmann, Army Map Service.) 1959, 84 pp.

HL7-02-02-77 Daniel, Mann, Johnson, and Mendenhall, International, Ground Water Exploration of the Khorat Plateau, Final Report. Wat Areekul Press, Bangkok, Thailand, July 1961, 41 pp, illus, maps.  
DIA/DL  
KIP  
340418  
Final

The initial part of this report deals with personnel, training, and equipment. The remainder of the text is fairly detailed and treats geography, geology, hydrology, surface water, and groundwater of the Khorat Plateau. The geological section discusses such subjects as historical geology, physiography, and geomorphic processes, and presents a summary with geologic units and characteristics. Exploratory hole data are given for 350 holes, in terms of depth, static water level, yield, draw on total dissolved solids, and pump type. Photographs show various phases of the operations in progress during this study. Four maps are included.

The first map, "Provisional geologic map, Northeast Plateau of Thailand," is at a scale of

1:1,975,000. The mapped area is from  $14^{\circ}\text{N}$  to  $19^{\circ}\text{N}$  and from  $101^{\circ}\text{E}$  to  $106^{\circ}\text{E}$ . Six units mapped are (1) alluvium, sand and gravel, and unconsolidated terraces and fill of the Recent epoch; (2) shale, siltstone and evaporites, and fine-grained marine sediments of the Upper Khorat Series of the Jurassic and younger periods; (3) sandstone, shale, and siltstone of the Lower Khorat Series of the Triassic period; (4) Ratburi limestone of the Permian period; (5) shale, sandstone, and metamorphics of the Kanchanaburi Series of the Silurian and Permian periods; and (6) basalt and crystalline granite rocks of Tertiary and older, undifferentiated periods. Cross sections are given on lines from  $14^{\circ}\text{N}$  through Buriram and Roi-Et to slightly north of  $18^{\circ}\text{N}$ , and from  $101^{\circ}\text{E}$  through  $103^{\circ}\text{E}$   $16^{\circ}\text{N}$  and Ubon to just west of  $106^{\circ}\text{E}$ . As this map is a photograph negative, the contrast between units is extremely small and only two distinctions could be made positively from the map. Also shown are towns, major drainage, roads, and synclinal and anticlinal axis. The report admits that the map is generalized but believes that the assumptions are valid.

The second map, "Map of Northeast Thailand, ground water province chart," is at a scale of 1:1,000,000. It divides the Khorat Plateau into three groundwater provinces. They are the sand-and-gravel province composed of areas along the Mae Nam Mun north of Nakhon Ratchasima, along the Nam Loei, along the northern bank of the Nam Chi and Mae Nam Mun from the Mekong to Khon Kaen, and the southern bank of the Mekong in the northeast area of the plateau; the sandstone province consisting of areas along the hills of the southern border, the hills southwest of Nakhon Ratchasima, and the hills dividing the drainage between the Nam Chi and the Mekong; and the shale province, which occurs everywhere else, except for unmapped portions in the extreme southwestern and northwestern portions of the plateau. Political boundaries, highways, railways, drainage, towns, and a few unlabeled topographic contours for the higher elevations are given.

The third map, "Map of Northeast Thailand, exploration hole location," at a scale of 1:1,000,000, gives the locations of wells by number and gives the total depth in feet. Political divisions, highways, railways, drainage, towns, and a few unlabeled topographic contours for the higher elevations are given.

The fourth map, "Map of Northeast Thailand, isosalinity chart," also at a scale of 1:1,000,000, shows isosalinity contours (total dissolved solids in parts per million) for the Khorat Plateau. Four contour values are used: 300, 500, 1000, and 2000 parts per million with the 2000 value limited to a small area northeast of Sakon Nakhon. Political boundaries, drainage, highways, railways, and towns are shown. A few unlabeled topographic contours are shown in the higher portions.

H18-01-02-X0	Daniel, Mann, Johnson, and Mendenhall, International, <u>Ground Water</u>
DIA/DL	<u>Exploration Project</u> . Monthly progress reports, Bangkok, Thailand,
EIF	1959-1961, various pages, illus, maps.
330,418	

These reports give a brief summation of work and cumulative progress. Charts, photographs, graphs, and maps are included when necessary to show footage drilled, working conditions, water analysis and production, geologic and electric logs, and locations of holes drilled. Water analysis and production are stressed more than geology.

H19-01-03-X0	Darling, H. Velpeau, "Harmony on the Mekong River." <u>The Military Engineer</u> ,
	vol 50, No. 335, Washington, D. C. (May-June 1958), pp 176-179, illus,
	map.

This is a report of a repeat engineer reconnaissance and stresses the need for data so that specific projects concerning the drainage basin can be initiated.

H20-01-02-X0	Darling, H. Velpeau, "The Mekong River Basin; an engineer's view." <u>The</u>
	<u>Military Engineer</u> , vol 49, No. 330, Washington, D. C. (July-August 1957),
	pp 266-269, illus, map.

This is a report of a river engineer reconnaissance in 1956 covering the Mekong River from its mouth to its entry into the Indochina peninsula. Very limited information concerning the topography, geology, climate, and hydrology of the drainage basin is included.

H21-01-05-X0            Didier, F., The Bangkok Water Supply 1922-23. Bangkok Local Sanitary Department, Bangkok, Thailand. 17 pp, maps.

Not available for review.

H22-01-02-XGLSVC        Dobby, Ernest Henry George, Monsoon Asia. Quadrangle Books, Inc., Chicago, Ill., 1961, 381 pp, illus, maps.

H23-01-02-XGLSVC        Dobby, Ernest Henry George, Southeast Asia. 7th ed., University of London Press, Limited, London, England, 1960, 415 pp, illus, maps.

H24-01-02-X0            "Good news from the Mekong." The Lamp, vol 45, No. 2 (Summer 1963). New York, N. Y., pp 10-15, illus.

This brief article reviews the future use of Mekong River for power generation, irrigation, flood control, and navigation.

H25-01-02-XGLSVC        Graham, Walter Armstrong, Siam: A Handbook of Practical, Commercial and Political Information. 2nd ed., Alexander Moring, Limited, London, England, 1912, 637 pp, illus, map.

H26-01-02-XS  
LC  
QE1  
.67                      Gregory, John Walter, "The evolution of the river system of Southeastern Asia." Miscellaneous Geological Papers, vol 9, Glasgow University, Glasgow, Scotland (1925), pp 129-141, maps. Reprinted from The Scottish Geographical Magazine, vol 41, Edinburgh, Scotland, May 1925.

This article describes the origin and formation of the Salween Mekong, and Yangtze Rivers. The author and his son visited the headwaters in 1922, and considerable research was accomplished in preparing this paper. It is presented in sections: Tibetan river problems, valley structure, river system development, and the reported antecedent nature of the Himalayan rivers. The river system development section is divided into the main stages of river development beginning with Post-Altaid leveling and ending with the diversion of the southern drainage. Each of the stages is defined and briefly discussed. Two small-scale maps illustrate this portion of the article. A 29-item bibliography concludes the article.

H27-01-01-X0            Harden, Herbert, River Reconnaissance - Bangkok to Saraburi and Vicinity  
DIA/DL                      12-14 July 1962 Unpublished, Bangkok, Thailand, July 16, 1962, 9 pp.

EIF  
392,805

This reconnaissance was made to determine the feasibility of using the Chao Phraya and Mae Nam Pa Sak for cargo transportation to Saraburi and above and to determine if high unloading ground existed along the route. The report is presented in the form of a trip log which gives times, occasional water depths, and some bank materials. Two unloading sites are described, and an inclosure gives the operating cycle and time for the Rama VI locks.

H28-01-03-X0            "Harnessing the mighty Mekong." United Nations Review, vol 4, No. 9,  
LC                              New York, N. Y. (March 1958), pp 6-9, illus, map.

JX1977  
.AJU563

Results of the UN survey are presented very briefly in this report, and the basin development in terms of mission, results, possibilities, and economic benefits is discussed. A small-scale map is included which gives a general picture of the water resources development scheme as recommended for detailed investigation.

H29-01-02-XO Harza Engineering Company, Program for Lower Mekong River Project.\*  
 Chicago, Ill., February 9, 1959, 16 pp, illus, maps.  
 EIF  
 331,897

The proposed work program is divided into three phases: surveying, installation and operation of equipment, and office computations and report preparation. Detailed descriptions of the phases are given with phase one being divided into triangulation and leveling and hydrographic surveys, phase two being divided into stream gaging and climatological stations, and phase three being divided into office computations and reports. The maps and illustrations show organization and staffing, field offices and areas of operation, schedule of work, schedule of personnel, and cost.

H30-01-01-XO Harza Engineering Company, Lower Mekong River Progress Reports.\* Bangkok, Thailand, March 1960, and March, April, June, and July 1961, 13, 12, 11, 12, and 11 pp, respectively.  
 DIA/DL  
 EIF  
 361,251/  
 Feb 60  
 Feb 61  
 Mar 61  
 May 61  
 Jun 61

General situations, engineering procurement, and personnel are covered in these progress reports. Some are illustrated by graphs, charts, and hydrologic data.

H31-01-01-XO Harza Engineering Company, Lower Mekong River Progress Report. Bangkok, Thailand, June 1960, and November, December, and January 1961, 12 pp each.  
 DIA/DL  
 EIF  
 361,251/  
 June 60  
 Oct 61  
 Nov 61  
 Dec 61

These progress reports cover general situations, engineering, procurement, and personnel. Some are illustrated by graphs, charts, and hydrologic data.

H32-02-02-XO Harza Engineering Company, Fourth Semi-Annual Progress Report for Period November 1, 1960 to April 30, 1961, Lower Mekong River Project.\* Chicago, Ill., July 7, 1961, 38 pp, illus, map.  
 EIF  
 347520/4

This report covers the progress to date, including topics of general information, organization and mobilization, equipment, and engineering. The engineering section contains information on the status of stream gaging, sediment sampling, climatological, terrestrial, and training programs, and hydrographic surveys. The illustrations are composed of progress charts, photographs, installation listing, personnel, etc., but no quantitative terrain data are included. One map, "Location of hydrologic installations," at a scale of 1:5,000,000, shows scheduled and installed recording rain gages, evaporation stations, United Kingdom meteorological equipment, river discharge measuring stations, recording river gages, and nonrecording rivers gages, which are installed or planned within the basin. The map also shows international boundaries, large towns, drainage watershed boundaries, and 1-deg coordinates.

H33-01-01-XC Harza Engineering Company, 1960 Hydrologic Data Mekong River Basin in Thailand. Prepared for the Committee for Coordination of Investigation of the Lower Mekong River Basin and the U. S. Agency for International Development, Chicago, Ill., April 26, 1962, 108 pp, map.  
 USGS  
 783(630)  
 qH2671t  
 1960

\* For official use only.

This report covers those hydrologic stations in the Lower Mekong River project which were installed or improved by the Harza Engineering Company. The purpose of the report is to provide a permanent record of data which will be usable in hydrologic studies. The report contains sections of data on stream gaging, sediment concentration, hourly precipitation, daily evaporation, and daily wind movement. Streamflow data are presented in five parts for seven stations in Thailand and two stations in Laos. The first part is a general description of the station concerning gage type and location, datum elevation, drainage area, etc. The second part contains water temperature data, measured at midstream at or near the surface, and flow duration tables. The third part gives the standard rating tables used during the year. The fourth part shows the mean daily gage height and the final part contains daily discharge and monthly and annual values of volume, mean discharge runoff, and maximum and minimum daily discharge. Sediment sampling data are limited to date of sample, sediment concentration, and river stage and discharge at sampling time. Precipitation data consist of hourly data from recording rain gages along with daily and monthly values when records are sufficiently complete. The evaporation and wind data were obtained from class "A" evaporation pans and anemometers using recommended procedures. The wind movement data are obtained by the anemometer which is 15 centimeters above the rim of the evaporation pan.

H34-01-01-XC

USGS  
783(630)  
QH2671t  
1961

Harza Engineering Company, 1961 Hydrologic Data Mekong River Basin in Thailand. Prepared for the Committee for Coordination of Investigation of the Lower Mekong River Basin and the U. S. Agency for International Development, Chicago, Ill., May 11, 1962, 195 pp, map.

This report covers those hydrologic stations in the Lower Mekong River project which were installed or improved by the Harza Engineering Company. The purpose of the report is to provide a permanent record of data which will be usable in hydrologic studies. The report contains sections of data on stream gaging, sediment concentration, hourly precipitation, daily evaporation, and daily wind movement. Streamflow data are presented in five parts for seven stations in Thailand and two stations in Laos. The first part is a general description of the station concerning gage type and location, datum elevation, drainage area, etc. The second part contains water temperature data, measured at midstream at or near the surface, and flow duration tables. The third part gives the standard rating tables used during the year. The fourth part shows the mean daily gage height and the final part contains daily discharge and monthly and annual values of volume, mean discharge runoff, and maximum and minimum daily discharge. Sediment sampling data are limited to date of sample, sediment concentration, and river stage and discharge at sampling time. Precipitation data consist of hourly data from recording rain gages along with daily and monthly values when records are sufficiently complete. The evaporation and wind data were obtained from class "A" evaporation pans and anemometers using recommended procedures. The wind movement data are obtained by the anemometer which is 15 centimeters above the rim of the evaporation pan.

H35-01-01-XO

USGS  
783(630)  
QH267L  
1962

Harza Engineering Company, Lower Mekong River Basin Discharge Data Prior to 1960. Prepared for the Committee for Coordination of Investigation of the Lower Mekong River Basin and the U. S. Agency for International Development, Chicago, Ill., July 10, 1962, 212 pp.

The purpose of this report is to provide a permanent, readily available record of basic data in an easy to use form. It presents these data for eight stations in the basin: six on the Mekong at Vientiane, Thakek, and Pakse, Laos; Stung Treng and Kratie, Cambodia; and Mukdahan, Thailand; and for two on rivers entirely within Thailand. These stations are on the Nam Mun at Ubol and Nam Chi at Vasotorn. The data give daily and monthly discharge, monthly mean discharge, maximum and minimum daily discharge, and runoff as an average depth over the drainage basin. These stations have a total of 171 years of records ranging from 5 to 35 years for the individual station. Their locations are shown on a small-scale map. In addition to the data considered to be good for computation of historical discharges as listed previously, the report has an inventory of available river records as compiled by a United States Bureau of Reclamation team and reported in its publication entitled "Reconnaissance report - Lower Mekong River basin," March 1956. (See hydrology section of this bibliography.) This inventory gives stream, location of station, period of record, years of record, gage type, observation type, and records location for approximately 80 stations of which 44 are located on Thai rivers with the records being held by the Thailand Royal Irrigation Department. The majority of the remaining records are for the Mekong River. The data given in the report, all in the metric system, seem excellent for the eight stations and the inventory is invaluable in that it gives a rapid accounting of available records.

H36-01-01-X0 Harza Engineering Company, Progress Reports Lower Mekong River Project.  
 Ten units, Chicago, Ill., and Bangkok, Thailand, March 6, 1959-  
 DIA/DL January 4, 1960, v.p.  
 EIF  
 347520/1

These progress reports cover work from November 21, 1958, the beginning of the project, to December 31, 1959. They cover general situations, engineering, procurement, and personnel. Some are illustrated by graphs and charts and three have hydrologic data included.

H37-01-02-X0 Harza Engineering Company, Revised Program for Lower Mekong River Project.  
 Bangkok, Thailand, October 5, 1959, 11 pp, illus.  
 DIA/DL  
 EIF  
 347520/1

This revision of the original program is divided into three phases: surveys, installation and operation of hydrologic gages, and office computations and report preparation. Information covering accomplished and anticipated work is given along with planned completion dates. The illustrations show proposed organizational charts, distribution of field work, and work programs.

H38-01-02-X0 Harza Engineering Company, Revised Program for Lower Mekong River Project,  
Contract Year 1959-1960. Bangkok, Thailand, October 5, 1959, 11 pp,  
 DIA/DL illus, map.  
 EIF  
 347,520/1

This revision is divided into three phases: surveys, installation and operation of hydrologic gages, and office computations and report preparation. Information covering accomplished and anticipated work is given, along with planned completion dates. The illustrations and map show proposed organizational charts, distribution of field work, and work programs.

H39-01-02-X0 Harza Engineering Company, Revised Program for Lower Mekong River Project,  
Contract Year 1960-1961.\* Chicago, Ill., June 30, 1960, 19 pp. illus,  
 DIA/DL map.  
 EIF  
 347520/2

This report gives the objectives for the contract year: surveying of streams, installation and operation of hydrologic gages, and office computation and report preparation. Information on work accomplished, work anticipated, and completion dates are given. The illustrations show proposed organizational charts, distribution of field work, work programs, and personnel schedules.

The inclosed map, "Proposed distribution of field work," no scale, is dated May 1960. It shows existing recording gages, proposed precipitation stations, proposed recording gage and discharge stations, boundaries of field station areas, country boundaries, and existing recording rainfall stations. The map also shows the towns from which each section will be operated, drainage, and 2 deg (even) coordinates.

H40-01-01-X0 Harza Engineering Company, Second Semi-Annual Progress Report for Period  
November 1, 1959 to April 30, 1960 Lower Mekong River Project.\* Chicago,  
 DIA/DL Ill., July 13, 1960, 26 pp, illus.  
 EIF  
 347520/3

This report covers the progress to date, topics of general information, organization and mobilization, procurement of equipment, and engineering. The latter section contains information on stream gaging, sediment sampling, climatological program, terrestrial surveys, and hydrographic surveys. A list of discharge measurements is included.

\* For official use only.



Hydrologic Geometry, Text

H41-01-01-XO

DIA/DL  
EIF  
361,251/  
May-Oct  
1960

Harza Engineering Company, Third Semi-Annual Progress Report for Period May 1, 1960 to October 31, 1960, Lower Mekong River Project, \*Chicago, Ill., January 24, 1961, various pages, maps.

Progress to date covering topics of general information organization and mobilization, procurement of equipment, and engineering is given. The latter section contains information on stream gaging, sediment sampling, climatological program, terrestrial surveys, and hydrographic surveys. A list of discharge measurements is included.

H42-01-01-XG

Hashiguchi, Nasuo, Debriefing of Source Case No. 35199. U. S. Army Corps of Engineers, Army Map Service, Washington, D. C., July 10, 1961, 5 pp, maps.

H43-02-01-XO

USGS  
(635)  
Gb  
No. 1

Haworth, Howard F.; Javanaphet, Junchet C.; and Chiangmai, Pongpan Na; Report on Ground Water Exploration and Development of the Khorat Plateau Region. Prepared in cooperation with the United States Operations Mission to Thailand, Thailand Royal Department of Mines, Ground Water Bulletin No. 1, Bangkok, Thailand, 1959, 72 pp, illus, map.

This report discusses the previous work, present program, and work progress of the exploration project. Three hundred and seventy-four wells were drilled from 1952 to 1955. The report presents drilling programs of the U. S. Geological Survey, the Thailand Department of Health and the Thailand Royal Irrigation Department, and the contract given to Daniel, Mann, Johnson, and Mendenhall International to drill 335 exploratory holes in the 15 Changwats of the Khorat Plateau. The quality of water is discussed, and the appendix gives analysis of well and surface water samples. Well locations and logs should prove useful in water table predictions; however, logs give only the depth drilled, the water level, and the quality of the water. General descriptions such as depth, water quality, and pump are given for nine core holes drilled by the Department of Mines, 19 wells drilled by the Thailand Royal Irrigation Department, and 66 wells drilled by the Thailand Department of Health.

The inclosed map entitled "Map of Northeast Thailand" dated October 9, 1958, is at a scale of 1:1,000,000. It shows the location of wells drilled by the Thailand Health Department, Royal Irrigation Department, Royal Department of Mines, and Public Works Department. The map also shows the locations of the surface water samples collected for chemical analysis, political divisions, drainage, roads, and towns.

H44-01-02-XO

LC  
HD1741  
.S5H6

Heide, J. Homan van der, General Report on Irrigation and Drainage in the Lower Menam Valley. Prepared for the Kingdom of Siam, Ministry of Agriculture, Bangkok, Thailand, June 1903, 149 pp, map.

The author poses questions of the possibility of irrigation, utility of irrigation, and urgency of improvements before going into the specifics of the project. The possibility of irrigation works depends primarily on slope, water supply, and technical feasibility, and the three of these are favorable to irrigation in the Central Plain. The utility of the project can be seen from the primary advantages of the prevention of crop failure, increase of available cultivation period, increase of cultivable lands, and fertilization of fields, the secondary benefits are drainage, sanitation, possibility of dry season crops, navigation, and improvement of road systems which outweigh the few disadvantages. The urgency of the project is of social and economic importance as the project is necessary for the continued well-being and improvement of the people and government. The Chao Phraya scheme is discussed with the possibility, utility, and urgency of the project being dealt with in more detail. The site of the weir and headworks, capacity, extension of cultivable area, main canals distributaries, navigation, and salinity are covered. Short sections are furnished concerning the administrative problems of executing the irrigation works; management, upkeep, and revenue; and organization of the Thailand Royal Irrigation Department. Limited rainfall tables and a location map of the projects conclude the report.

\* For official use only.

- H45-01-02-XG International Bank for Reconstruction and Development, A Public Development Program for Thailand. Johns Hopkins University Press, Baltimore, Md., 1959, 301 pp, maps.  
AMS  
HC497  
T3161
- H46-01-05-XO International Bank of Reconstruction and Development, Technical Report on the Chainat Hydro-Electric Project in Thailand. Washington, D. C., n.d.
- Not available for review.
- H47-01-02-XO  
"Japan begins survey of Mekong Tributaries." Vietnam Press (February 4, 1959), 3 pp.  
SEE: U. S. Army Military Attaché, Saigon, South Vietnam, Japan Survey of Mekong Tributaries. Report No. R-220-59, March 5, 1959, 3 pp.
- H48-02-01-XO Japan Government, Reconnaissance Team on the Mekong Tributaries, Comprehensive Reconnaissance Report on the Major Tributaries of the Lower Mekong Basin. Tokyo, Japan, September 1961, 232 pp, maps.  
AMS  
TC99  
J37  
1961

This is a detailed report of the three phases of the reconnaissance: general reconnaissance of all tributaries, semidetalled investigation of 16 of the 34 tributaries, and a supplementary survey of the first two phases. The report is presented in sections covering general features of the basin, reconnaissance of the tributaries, potentiality of the tributaries, priority of tributary projects, main-stem projects, agriculture and irrigation, and recommendations for further investigations. The Mekong Basin is discussed in general terms concerning geographical features, hydrology, geology and mineral resources, soil and forest resources, and inland navigation. The importance of the major tributaries is argued and the conclusion is reached that they are more important than the main-stem development. With this in mind, the report is mainly concerned with the investigation of 34 major tributaries in Laos, Thailand, Cambodia, and Vietnam. The approximate length and drainage area of each are given in tabular form. These tributaries were reconnoitered aerially and by ground inspection when possible, with hydrologic observations made and available data collected. The potential value of each of the tributaries in terms of power, flood control, and agriculture are discussed in general terms. Four of the tributaries are selected as primary areas: Battambang in Cambodia, Nam Ngum in Laos, Nam Pong of Upper Chi in Thailand, and Upper Se San in Vietnam. The respective basins and works are discussed in some detail. Several other primary projects are discussed. Five main-stem projects, which compliment the major tributary projects, are dealt with. Agricultural and irrigation factors, such as climate, soils, soil improvement, products, and irrigation principals, are discussed along with a general review of Mekong Basin flood control, navigation, and hydroelectric power. Recommendations for further hydrologic investigation, topographic map preparation, and investigation of the Nam Theun Project, along with general suggestions, are given. Many maps and tables illustrate portions of the report. Three appendixes (reconnaissance team itineraries, data collection, and related studies) and three maps conclude the report.

The first colored map, entitled "General map of the Lower Mekong Basin," is at a scale of 1:1,000,000. It covers an area east of 100°E and south of 20°N and encompasses the lower Mekong River basin. The 34 tributaries investigated are shown along with watershed boundaries, drainage, damsites, projected dams and reservoirs, irrigation canals, pumping stations, irrigable areas and limits of flooded area. Also included are spot elevations and major towns, political boundaries, and communication routes.

The second colored map, entitled "Topographical survey map of Nam Gam showing the classification of flood stricken areas," at a scale of 1:50,000, was prepared by Masahiko Ohya. It covers a small area on either side of the Huai Nam Gam from Nong Han (104°16', 17°09') to its junction with the Nam Bank (104°35', 16°59'). The general location is southeast of Dakin Nakhorn in Northeast Thailand. The author shows the extent of seven units: structural plain (never submerged in flood time), valley plain in the structural plain (in flood time the water drains off well), terrace (this area gets submerged only in an extraordinary flood time, but the water drains off well), valley plain in the terrace (in flood time the water drains off well), natural levee (this area is submerged in seasonal flood time, but the water drains off well), back marsh (this area is submerged longest in seasonal flood time), and ancient water way (this area is submerged in seasonal flood time). The mapping was accomplished with aerial photographs and without the aid of field surveys. These units are shown in color over the AMS L708 series which gives basic

information of detailed drainage, communications, towns, political boundaries, contours, and spot elevations and bench marks.

The third colored map, entitled "Topographical survey map of Lower Nam Mue showing the classification of flood stricken areas," is at a scale of 1:50,000. It covers an area from approximately 15°05'30"N to 15°20'N and from 104°30'E to 105°15'E, which includes areas along the Lam Nam Chi as well as the Maenam Mue. The map shows the same detail as the preceding map and has the same AMS call number.

H49-02-05-X0      Japan Government, Reconnaissance Team on the Mekong Tributaries,  
Provisional Report on the Whole Reconnaissance Works of Major Tributaries  
of the Mekong. Tokyo, no date, 60 pp, maps.

This report was unavailable for review but the organization's Comprehensive Reconnaissance Report on the Major Tributaries of the Lower Mekong Basin, Tokyo, Japan, September 1961, 232 pp, maps, is annotated in this bibliography.

H50-01-02-X0      Johnson, Charles G., Ground-water Supplies on the Korat Plateau, Thailand,  
DIA/DL      Interim Report. U. S. Geological Survey, Military Geology Branch, Hawaii,  
EIF      December 13, 1960, 8 pp.  
361,273

This information is taken chiefly from reports by P. E. LaMoreaux, et.al., Reconnaissance of the Geology and Groundwater of the Korat Plateau, Thailand, U. S. Geological Survey Water Supply Paper No. 1429, 1958; and Daniel, Mann, Johnson and Mendenhall International, Ground Water exploration Projects, Bangkok, Thailand, December 1959. Sections of the report deal with the depth, yield, number of shallow and deep wells, and more specific data on the 19 largest municipalities of the plateau.

H51-01-02-XG      Joint U. S. Military Advisory Group, Information and Statistics of High-  
DIA/DL      ways, Railways, and Irrigation Projects. Unpublished, Bangkok, Thailand,  
EIF      December 14, 1954, various sections and pages.  
240,894

H52-01-02-XC      Kambhu, Xujati, "Brief description of hydrologic features of river basins  
in Thailand." Journal of the National Research Council of Thailand, vol  
2, No. 1, Bangkok, Thailand (February 1961), pp 39-48, illus, maps.

This is a brief general article dealing with the subjects of location, topographic features, climate, rainfall, rivers, water and floods and droughts in Thailand. The climatic section is divided into the southwest monsoon season (rainy, May-September), the retreating southwest monsoon season (transition, October), the northeast monsoon season (cold, November-February), the retreating northeast monsoon (transition or hot, March-May), and temperature distribution; each of these is described. A table gives the minimum January, maximum April, and mean in summer monsoon temperatures for the northern, northeastern, central and southern parts of the country. Rainfall is briefly touched upon, and tables give the annual rainfall and the percent deviation of the standard, extreme maximum, and extreme minimum and the monthly rainfall for the northern, northeastern central, and peninsula east and west parts of Thailand. The major rivers, amounts of water, and river floods and droughts are briefly discussed. The report contains eight figures, some of which are maps (maps were not received for review).

H53-01-01-XSC      Kambhu, Xujati, "Characteristics of floods and prevention of damages in  
WES      Thailand." E/CN.11/Flood/L.26, Proceedings of the Regional Technical Con-  
TC405      ference on Flood Control in Asia and the Far East, Flood Control Series  
US      No. 3, ST/ECAFE/SER.F/3, United Nations Economic Commission for Asia and  
the Far East, Bangkok, Thailand, 1952, pp 240-43.

Thailand is divided into four regions: the northern region with the rivers Ping, Wang, Yom,

and Nan; the central region with the Chao Phraya, Mekong, and Petchburi; the northeastern region with the Chi and Mu Rivers; and the southern region, or peninsula. Characteristic soils are sandy clay and sandy clay loam for the northern region, sandy loam and lateritic soils for the northeastern region, sandy loam and sandy clay loam in the Central Plain north of Ayutthaya and silty clay in the Central Plain south of Ayutthaya, and sandy clay and sandy loam in the southern region. Average rainfall, monsoons, and runoff are discussed for each region with emphasis given to the Chao Phraya River area.

H54-02-02-XO

Kambhu, Xujati, Report on Irrigation, Drainage, and Water Communication Project of Chao Phraya River Plain. Thailand Royal Irrigation Department, Bangkok, Thailand, August 1949, 75 pp, map.

LC

TC913

.S65A53

This report is divided into two parts. The first part is a general description of Thailand and touches on such subjects as watersheds, soils, rainfall, and agriculture, while the second part is concerned with the Chao Phraya Irrigation and Drainage Project. The country is divided into four sections and the drainage of each is defined with emphasis on the central portion. The Central Plain is drained by four river systems: Chao Phraya, Mekong, Petchburi, and Bang Pakong, the first one being the largest. Catchment areas of each are discussed along with tributaries, effluents, and slope of the plain. Soil, rainfall, and climatic conditions are discussed briefly. Short sections are presented on the water supply of the Chao Phraya, agricultural products, and history of the Thailand Irrigation Works. The Chao Phraya Irrigation project is discussed in some detail, including such subjects as general features of the project; engineering data pertaining to surveys and maps; description of various tracks involved (Sukhan, Noe River, tidal, Chainat-Pasak, and Maharaj); and location and characteristics of the damsite with planned features. Lastly, the construction program, cost, and operations are touched upon. A large number of maps, tables, and graphs illustrating varied facets of the report should have been attached to the report, but they were not. One map at a scale of 1:246,000 is included and shows the tracts of the project along with the irrigation works. The area covered by the report and the map is the same as that covered by other Central Plain maps.

H55-01-01-XO

Kanchanalak, Boonchob, "The estimation of run-off based on rainfall data for the Me Ping River basin, Thailand." Proceedings of the Regional Technical Conference on Water Resources Development in Asia and the Far East. Flood Control Series No. 9, ST/ECAFE/SER.F/9, United Nations Economic Commission for Asia and the Far East, Bangkok, Thailand, 1956, pp 129-131.

WFS

TC405

U5

Nos. 6-9

This report is presented in three parts: problem, assumption, and application. The problem is a damsite location for which hydrological data are not available, and the nearest gaging stations are below its junction with another major stream. The assumption made is that  $Y_a = (X_a/X_b) \cdot Y_b$  where  $Y_a$  = mean monthly runoff at damsite A,  $X_b$  = mean monthly rainfall volume over the drainage area above the stream gaging station at B, and  $Y_b$  = mean monthly runoff at the stream gaging station at B. The remainder of the article applies this theory to the proposed damsite on the Me Ping River along with graphs for illustrations.

H56-01-00-XSLC

Kheosiplard, Pord, "Irrigation in Siam." Reclamation Era, vol 33, Washington, D. C. (April 1940), p 95.

WFS

TC401

R 4

This short article is a note concerning Mr. Xujati Kambhu's visit to various irrigation and reclamation projects in the United States. Siam has heavier rainfall than the areas of the U. S. irrigation projects. Siam has 30-40 inches per year in the Central Plain and 100-150 inches in the western portion and the exceptionally flat terrain irrigated in Thailand. The slope varies from 1 ft/mi to 1/2-1 ft/30,000 ft. Soil varies from a few inches to 2-1/2 ft in depth and is underlain by a deep stratum of impervious clay.

H57-01-01-XD Kheosiplard, Pard, "Siam and her irrigation works." Reclamation Era, vol 34, No. 7, Washington, D. C. (July 1948), pp 133-135.

WES  
TC801  
RA

This article touches many subjects. The author describes the four natural regions of the country (northern, eastern, central, and southern) and briefly describes the drainage of each. Climate, the monsoon season, temperatures, and rainfall and irrigation works in the Central Plain are discussed. The average maximum flow of the Chao Phraya River, 150 miles upstream from Bangkok, is approximately 211,000 cubic feet per second and the average minimum flow is approximately 1760 cubic feet per second. Common irrigation structures used are the diversion type dams with an average width of 262 feet and an average height of 26 feet. A map at a scale of 1:10,550,000 is included, showing timber, forest, rice, fruit, and rubber areas.

H58-01-02-XS LaMoreaux, Philip E., "General outline of geology and occurrence of ground water in the Korat Plateau, Thailand." Journal of Alabama Academy of Science, vol 27, Montevallo, Ala. (1955), pp 20-21, map.

H59-01-05-XD LaMoreaux, Philip E., Ground Water Investigation Program for the Khorat Plateau Area, Thailand. 1954.

Not available for review.

H60-01-05-XD LaMoreaux, Philip E., Review of Ground Water Project in Northeast Thailand. U. S. Geological Survey, Washington, D. C., 1957-1958 (?). (Prepared in cooperation with the Thailand Royal Department of Mines.)

Not available for review.

H61-02-02-XS LaMoreaux, Philip E., et. al., Reconnaissance of the Geology and Ground-water of the Khorat Plateau, Thailand. U. S. Geological Survey Water Supply Paper No. 1429, Washington, D. C., 1958, 62 pp, illus, maps.

H62-01-02-XGLSVC McCarthy, James, Surveying and Exploring in Siam. J. Murray, London, England, 1900, 215 pp, charts, maps.

H63-02-02-XS Montrakun, Sarot and Moorman, F. R., "Report on the soil survey of the Huai Si Thon irrigation project." Miscellaneous Soil Reports of the Department of Rice, Department of Agriculture, and the Royal Irrigation Department, No. 5, Thailand Ministry of Agriculture, Bangkok, Thailand (June 1962), 19 pp, illus, maps.

H64-02-02-XS Moorman, F. R., "Report on the preliminary soil survey of the Mae Klong irrigation project area." Miscellaneous Soil Reports of the Royal Irrigation Department, Department of Rice, No. 1, Thailand Ministry of Agriculture, Bangkok, Thailand (May 1962), 27 pp, illus, maps.

H65-01-02-XD Noh, Tachio, "Morphological studies of irrigation canals." The Geographical Review of Japan, vol 9, No. 10, Tokyo, Japan (October 1, 1933), pp 344-356.

LC  
250.7  
N234

This article is printed in Japanese, but has an English summary which states:

"In the rainy monsoon districts of Eastern Asia, irrigation canals sometimes form very characteristic networks, such as in the lower reaches of the Tokuho River in Japan and along the Yangtze Kiang in China. In this paper the writer discusses the development of these networks and their adaptation to environmental conditions. A classification of canal types is then given, and brief explanations are added regarding their distribution and their topographical significance."

- H56-01-02-HSLVC      Huttonson, M. Y., The Physical Environment and Agriculture of Thailand. American Institute of Crop Ecology, Washington, D. C., 1963, 256 pp.
- H57-01-02-HSLVC      Pacific Science Congress, 9th, Bangkok, Thailand, Thailand, Past and Present. Bangkok, Thailand, 1957, 193 pp. map.
- H58-01-02-HSLVC      Pendleton, Robert Larimore, Thailand, Aspects of Landscape and Life. Duell, Sloan, Pearce, New York, N. Y., 1962, 331 pp, illus, maps.
- H59-02-02-XS      Poonvises, Vira; Moormann, F. R.; and Montraku Sarot, "Detailed reconnaissance soil survey of the Mae Pao irrigation project (Kalin Province)." Miscellaneous Soil Reports of the Royal Irrigation Department, Department of Agriculture, and the Department of Rice, No. 12, Thailand Ministry of Agriculture, Bangkok, Thailand (February 1963), 29 pp, illus, maps.
- X70-02-02-XS      Poonvises, Vira; Moormann, F. R.; Katanaprayura, Chalernthep; and Montraku, Sarot, "Detailed reconnaissance soil survey of the Mae Taeng irrigation project (Chiang Mai Province)." Miscellaneous Soil Reports of the Royal Irrigation Department, Department of Agriculture and the Department of Rice, No. 14, Thailand Ministry of National Development, Bangkok, Thailand (April 1963), 18 pp, illus, maps.
- H71-01-02-XS      "Putting the mighty Mekong to work; a progress report on a great international venture." United Nations Review, vol 6, No. 9, New York, N. Y. (March 1960), pp 6-11, illus.

This article presents a brief general description of the Mekong River and the work that has been done or proposed. The Mekong is a snow-fed river rising in the Himalayas and flowing 2625 miles to the South China Sea. The last 1900 miles of the river affect the lives and economy of four countries: Laos, Cambodia, Vietnam, and Thailand. Its total drainage area is some 307,000 square miles with 235,000 square miles being in the Lower Basin. The lower part of the river is diverse in characteristics with width, depth, and volume varying greatly; it is the tenth ranking river in the world for average discharge. The French formulated plans for the river, made hydrographic studies, measured basin rainfall, and did topographic and aerial mapping, but the river remained an unknown quantity, until the Economic Commission for Asia and the Far East Bureau of Flood Control made studies and investigations in 1951. The actions of the Economic Commission for Asia and the Far East are traced, and the various participating countries and agencies are discussed as to the role they are taking. The program is estimated to take about 15 to 20 years, at the end of which time the area of Southeast Asia along the Mekong River from the Burma Border to the South China Sea will enter a new productive phase.

- H72-01-02-XO      Robinson, Bernard L., "The Yankee multipurpose project." Water Power, vol. 12, No. 9, London, England (1960), pp 352-358
- WES  
TKIDB  
WJ

The Bhumiphol Dam is located on the Ping River 420 kilometers north of Bangkok. It is to be 154 meters high and 467 meters long with a reservoir 100 kilometers in length holding 9,890,000 acre-feet of water. The power will serve 33 provinces and the reservoir water will irrigate 920,000 acres during the dry season, in addition to aiding the development of 320,000 acres. After completion the dam will provide flood control, needed irrigation, and additional transportation on canals during the dry season. The article discusses the need for the project, organization of the project, and project planning and financing.

H73-01-01-X0 Sain, Kanwar, "River basin development of international rivers with special reference to the Lower Mekong basin." Engineering and World Water Resources, papers delivered at the fifty-seventh meeting of the Princeton University Conference May 23 and 24, 1963. Trustees of Princeton University, Princeton, N. J. (1963), pp58-84, maps.

This report states only the view of the author and not those of the United Nations or any facet of the Mekong Committee of which he has been an advisor and member. The author begins with a brief discussion of laws and opinions relating to the development of international streams before going into the Mekong basin development. The Mekong basin is discussed in terms of drainage area, length, and discharges. The planned projects and the effects, other than irrigation, that the development will have are described. Eight graphs and two small-scale maps are included. The graphs show discharge and runoff data for several stations on the Mekong. The two maps show watershed boundaries, gaging stations and duration of record, and proposed damsites. Appendixes give the background and the organization of the Committee for Coordination of Investigations of the Lower Mekong Basin.

H74-01-01-X0 Schaff, C. Hart and Field, Russell F., The Lower Mekong: Challenge to Cooperation in Southeast Asia. Van Nostrand Searchlight Book No. 12, LC HD1699 D. Van Nostrand Company, Inc., Princeton, N. J., 1963, 136 pp, maps. .M5S35

The authors contributed views of general environment and political climate and the development of the basin. This book presents a good brief description of the enormous project and all effects and repercussions. The discussions encompass the Mekong basin as a whole and few specific areas, with the exception of damsites, are mentioned. The maps included show the Mekong states, proposed dams and powerlines, profile, and proposed main stream projects for the river basin.

H75-02-02-XL Siam Royal Irrigation Department, Administration Report of the Royal Irrigation Department of Siam for the Period 2457 B.E. - 2468 B.E. (1914-15) - (1925-26). Bangkok Times Press, Limited, Bangkok, Siam, LC TC913 February 1927, 219 pp, map. .S5A1

This is a general report covering the activities of the department. Subjects covered include history, Sir Thomas Ward's recommendation, reports on various phases of the Irrasak South Canal project, other projects, dredgers, the work of the Conservation Branch, irrigation and revenue report, a meteorological report, workshop reports, and statements of expenditures and data for various projects. In addition, time, money spent, channel dimensions and slopes, irrigable areas on the completed Irrasak project, the cost of dragline excavation per cubic meter and statements of fees collected at different locks for boat passage are discussed. The meteorological report gives a brief resume of the activities of the Meteorological Section and has tables for various attributes measured. A map, "Irrigation map showing works completed and works proposed in progress according to the 1965 programme in the plain of Central Siam," at a scale of 1:400,000, is included. The map covers the geographic area of 13°N to 16°N and 99°30'E to 101°40'E, but only the floodplain from Chaisat southward is mapped. It shows irrigation channels, drainage channels, flood embankments, and navigation and conservation projects (completed, in progress, and proposed), and the areal extent of six projects within the Central Plain. Towns, lines of communication, and drainage are shown.

H76-01-02-X5 Siam Royal Irrigation Department, Project Estimate for Works of Irrigation, Drainage, and Navigation to Develop the Plain of Central Siam. Volume III, LC TC1113 Bangkok Daily Mail, Bangkok, Thailand, 1915, 116 pp. .J5A5 1915

This report discusses the feasibility of a working irrigation and drainage system for Lower Siam, past accomplishments, and possible future projects of the Thailand Royal Irrigation Department. Dredging methods, with emphasis on soil types encountered, are included, but no specific locations are given. Part II gives information on map coverage, accuracy of methods, and future work.

H77-01-02-XLSV      Terrain Features, Thailand, Intelligence Estimate, annex A.1. April 1959, 17 pp.

H78-02-02-XGVC      Thailand Ministry of Agriculture, Agriculture in Thailand, Bangkok, Thailand, 1957, 263 pp, illus, maps.  
AMS  
S471  
T3T36

H79-01-02-XC      Thailand Ministry of Commerce, "Note on irrigation in Siam." The Record, vol 14, No. 15, Bangkok, Thailand (January 1925), pp 121-136.  
LC  
HF259  
.S55

This article provides general coverage of irrigation in Thailand with reference to necessity, rainfall, results, and proposed schemes. Two appendixes give rainfall statistics from 29 stations for September plus the period of April-September and a financial statement for the proposed irrigation schemes.

H80-02-02-XGLSVC      Thailand Ministry of Commerce and Communication, Siam Nature and Industry. Bangkok Times Press, Limited, Bangkok, Thailand, November 1930, 323 pp, illus, maps.

H81-01-03-XO      Thailand Royal Irrigation Department, Bhumiphol Dam and Power Plant-Yanhee Multipurpose Project.\* Bangkok, Thailand, June 1958.  
DIA/DI  
EIF  
330,411

The reference deals almost entirely with the specifications for the construction of the dam and power plant. It discusses special conditions, sources of materials, local conditions, earthworks, drainage, concrete, and machinery.

H82-01-03-XO      Thailand Royal Irrigation Department, Boromchart Irrigation Project, Chainat. Bangkok, Thailand, January 1962, folder, map.  
AMS  
TC913  
T3T43

This folder presents a very brief sketch of the headworks of the Noi River Tract in terms of project area, irrigable area, headworks, distribution system, construction, cost, and benefits. Photographs illustrate the description and a small-scale map shows headworks locations and distribution system.

H83-02-02-XSC      Thailand Royal Irrigation Department, The Greater Chao Phraya Project Thailand. Bangkok, Thailand, 1955, 43 pp, maps.  
AMS  
TC113  
T3T47

This report lists the various watersheds in Thailand and gives a brief topographic description of each. The soil types of the plain areas, rainfall and its seasonal aspects in the area,

\* For official use only.



Hydrologic Geometry, Text

and the available water supply of the Chao Phraya River, the main source of water for paddy irrigation and cultivation in the Central Plain, are discussed. A short history of the various irrigation works in Thailand is given. Descriptions follow for the various tracts of the Chao Phraya project: land use and production, comparison of increased acreage, and crop yield. Accounts of the Chao Phraya headwork and distribution work and notes on the construction of the Chao Phraya headwork conclude the report. Two maps at scales of 1:400,000 and 1:2,000,000 show the Greater Chao Phraya project and Irrigation Development, respectively.

H84-01-02-XO      Thailand Royal Irrigation Department, The Greater Chao Phraya Project  
DIA/DL      Thailand. Bangkok, Thailand, December 1957, 42 pp, illus.  
EIF  
330,495

This report is identical to the 1955 edition, with the exception of approximately 30 assorted photographs of the facilities.

H85-01-01-XO      Thailand Royal Irrigation Department, Hydrological Study for Lam Pura  
AMS      Piering Dam Project, Pakdongchai, Korat. Bangkok, Thailand, 1955.  
TC113  
S5S56  
T3T36

This report gives a very limited topographic description of the basin area, rainfall data, stream flow information, flood characteristics, reservoir study, flood routing, water supply available for irrigation, and rainfall over the irrigation areas. There are tables showing rainfall, days of rainfall, meteorological data, and monthly streamflow data. The plates include a drainage map entitled "Topographic map, rainfall graphs, rainfall-runoff correlation of Hlai Samran basin, and local runoff at Pakdongchai and Chok Chai."

This reference contains some good hydrological data.

H86-01-03-XO      Thailand Royal Irrigation Department, Invitation to Bid, Specifications,  
DIA/DL      Drawings, Bidding Form and Contract for Hydraulic Turbines, Generators,  
EIF      and Electrical Equipment for Greater Chao Phraya Project of Thailand.  
238,950      Specification No. S-2, Bangkok, Thailand, September 15, 1954, 48 pp, illus.

This report describes the specifications and conditions for bidding on a 300 kilowatt hydraulic turbine and generator for the Chainat Dam and 15 kilowatt hydraulic turbines and generators to be installed at seven locations. The appendix contains detailed drawings of the installation and its location.

H87-01-03-XO      Thailand Royal Irrigation Department, Irrigation Dam and Reservoir Proj-  
AMS      ect of Mae Kuang (Pha Taek), Lam Pao, Lam Takhong, Lam Pira Phloeng.  
TC913      Bangkok, Thailand, 1964, folder, maps.  
T3T41

This brochure presents a very brief sketch of the four projects relative to background, system, water control, area, headworks, distribution system, water supply, cost, and benefits. Small-scale maps which give headworks, location, reservoir, irrigable area, and transmission canals are included for the four projects.

H88-01-03-XO      Thailand Royal Irrigation Department, Mae Paek Project. Bangkok,  
AMS      Thailand, 1962, folder, map.  
TC913  
T3T45

This brochure presents a very brief sketch of the project relative to location, purpose, need, irrigable area, water requirements and supply, cost, benefits, and repayment. A small-scale map shows project location.

H89-01-01-XO

Thailand Royal Irrigation Department, Report on Preliminary Investigation and Proposal of the Yanhee Hydroelectric Multipurpose Project with 1953 Revisions. Bangkok, Thailand, January 1954.

Not available for review.

H90-02-02-XF3

USBR

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Thailand

Thailand Royal Irrigation Department, The Yan-Hee Hydro-Electric Multipurpose Project, Thailand. Bangkok, Thailand, January 1953, 253 pp, illus, maps.

This report presents a very comprehensive view of the Yan-Hee project. It contains background information and individual sections on cost estimates, economics, financial study, load demand, geological investigations, hydrology, power study, dam, powerhouse, hydraulic turbines, generators and transformers, switchyards and substations, and transmission lines. Many photographs, tables, and maps supplement the text. Of the many topics discussed, only hydrology and geology are relevant to the MERS program.

The hydrology section occupies pages 118-184 of the report and was prepared by the Hydrology Section of the Surveying Division. It gives a summary of basic data, a physical description of the basin, hydrology of the basin, reservoir studies, and spillway design. Tables give rainfall for 25 stations within the basin, monthly distribution of rainfall, and number of days with precipitation. Small-scale maps show drainage area, location of gaging stations, and isohyets for average annual rainfall over a 40-year period and monthly values for March through December.

The geological section occupies pages 97-117 and was prepared by Vija Sethaput of the Department of Mines. After a brief topographical description of the area, the author gives a resume of formations, stratigraphy, gorge dimensions, suitability for a damsite, and construction material availability for the Wang Sing, Kang Soi, Kang Ab Nang, Khao Khanbet, Khao Khanna, Hako Yanhee, and Wang Kha Chow sites. The author concludes that the Yanhee site is the most favorable for the construction. Three semidetalled maps are included in this section.

The first map, "Geologic map along Mae Ping River," is at a scale of 1:200,000 and covers a narrow strip along the river from Ban Nang Luang to Ban Nong Lalai. The areal extent of alluvium, limestone, slate or quartzite, tactite, crystalline limestone or schist, and pre-Triassic or post-Permian granite is shown. Spot locations of dip and strike, synclinal axis, possible damsites, and towns are included but the map has no coordinates.

The second map, "Geologic section between Wang Kha Chow and Yanhee," is at a scale of 1:10,000. It shows units of quartzite, gneiss, crystalline limestone, contorted schist, and granite. A datum is assumed and heights of features are indicated.

The third map, "Location of proposed damsite," is at a scale of 1:10,000 and covers the area between 98°54'E to 99°05'E along the river in the vicinity of 17°15'N. Units of alluvium, schist, limestone, granite, and quartzite are shown with the damsite being located in a granitic area. The Yanhee and Wang Kha Chow sites are located and the mapped area is contoured with a 10-meter interval. The map has no coordinates.

H91-01-03-XO

AMS

TC113

T3T47

Thailand Royal Irrigation Department, Yanhee Hydro-Electric Project, Bhumiphol Dam. Bangkok, Thailand, 1961, folder, maps.

This brochure presents a very brief sketch of the project relative to history, transmission system, switchyard, spillway, dam, construction, reservoir, power plant, benefits, and statistics. Small-scale maps show damsite location and transmission network.

H92-02-02-XS

Thailand Soil Survey Division, "Note on the soil survey of the Khao Tao area." Soil Survey Reports of the Land Development Department, No. 17, Thailand Ministry of National Development, Bangkok, Thailand, January 1964 (provisional edition), 11 pp, illus, maps.

Hydrologic Geometry, Text

H93-02-02-XS      Thongchuta, Tanit; Monthabund, Somnug; and Moormann, F. R.; "Report on the soil survey of the site of the proposed agriculture centre near Satani Nam Phong (Khon Kaen Province)." Miscellaneous Soil Reports of the Department of Agriculture, Department of Rice, and the Royal Irrigation Department, No. 10, Thailand Ministry of Agriculture, Bangkok, Thailand (December 1962), 17 pp, illus, maps.

H94-02-05-XO      Thornthwaite, C. W. et. al., "Three water balance maps of Southwest Asia." Drexel Institute of Technology, Laboratory of Climatology, Publications in Climatology, vol 11, No. 1, Philadelphia, Penn. (1958), 57 pp, maps.  
LC  
QC981  
.J35

Not available for review.

H95-01-02-XG      Transportation Consultants, Inc., An Engineering Reconnaissance Report on Highways, Airfields, River Crossings, Water Transportation and External Routes of Supply for the Kingdom of Laos. Washington, D. C., June 27, 1957, 99 pp. (Prepared for the International Cooperation Administration.)

H96-01-01-XO      United Nations Economic Commission for Asia and the Far East, Development of Water Resources in the Lower Mekong Basin. Flood Control Series No. 12, ST/ECAFE/SER.F/12, Bangkok, Thailand, October 1957, 75 pp, illus, maps.  
WES  
TC405  
U5

This report is largely technical and only briefly describes the physical conditions within the basin. A figure gives the depth and current velocity for the Mekong at various locations for both the dry and wet seasons. Utilization of the river for hydroelectric power, navigation, irrigation, and flood control are discussed. A multitude of tables giving the benefits and cost of proposed projects are available. Several small-scale maps are included. While a wealth of technical data for the various projects are available, this reference is of no use to a quantitative terrain program.

H97-01-01-XO      United Nations Economic Commission for Asia and the Far East, Development of Water Resources in the Lower Mekong River. ECAFE/L.119, Bangkok, Thailand, February 11, 1957, 133 pp, maps.  
AMS  
TC113  
I4U34  
prelim

This is a semidetalled report concerning development of the Mekong basin for power, irrigation, and navigation. It is the result of the investigations in April and May of 1956 and supplemented with data from other investigations. Topics discussed in general terms include the salient features of the basin, potential development, present and planned utilization of the basin, discussion of various projects for more detailed investigation (Pa Mong, Khemarat, Khone Falls, Sambor, and Tonle Sap), and a summary and recommendations. Appendixes and maps concerning subjects of drainage, river profiles, and traffic flow are included. This report, while informative for general features, offers little that has not been covered in greater detail elsewhere.

H98-01-01-XL      United Nations Economic Commission for Asia and the Far East, Field Methods and Equipment used in Hydrology and Hydrometeorology. ST/ECAFE/SER.F/22, New York, N. Y., 1962, 127 pp, illus.  
WES  
TC405  
U5

This book is the result of a seminar organized jointly between the Economic Commission for Asia and the Far East and the World Meteorological Organization. Participants from Burma, Federation of Malaya, Thailand, Laos, and the Republic of Vietnam attended.

Written material is divided into three sections: "Proceedings of the seminar,"

"Lectures by consultants," and "Papers by participants." The first section is of no use and is not considered. Topics in section two cover general principles of the measurement of water stages, sediment transportation and concentration, storm precipitation, water discharge, and evaporation. Although the papers contain technical descriptions and quantitative data, specific example excluded all MERS areas. Section three is of the same nature but contains some papers on specific geographic areas, including one on Thailand by Dumrong Charoensook entitled "Analysis of a flood-producing storm," (pp 115-119). The author, aided by numerous graphs and illustrations, briefly describes the monsoon season in Thailand and adjacent territories, giving sparse rainfall and hydrograph data.

H99-01-01-X0 United Nations Economic Commission for Asia and the Far East, "General  
 IC description and flood problems of the major rivers in Asia and the Far  
 GPRR East." Flood Control Journal, No. 1, ST/ECAFE/SER.C/1, Bangkok,  
 Thailand, September 1949, 46 pp, maps.

This article covers most of the countries of Asia, including Burma, Indochina, and Thailand. Short sections are devoted to the major rivers: the Irrawaddy in Burma, the Red and Mekong in Indochina, and the Chao Phraya and Mekong in Thailand. Drainage areas, flood stages, discharge, and projects and works carried out are mentioned. Brevity prevents this article from being of much use, though quantitative data are included.

H100-01-02-XL United Nations Economic Commission for Asia and the Far East, Multiple-  
 WES Purpose River Basin Development, Part 2C, Water Resources in British  
 TC405 Borneo, Federation of Malaya, Indonesia and Thailand. Flood Control  
 U5 Series No. 14, ST/ECAFE/SER.F/14, Bangkok, Thailand, 1959, 135 pp,  
 illus, maps.

Of the four countries covered in this report, only Thailand, which involves 37 pages, is considered. The article is divided into four parts: salient features, water resources development (past until the present), need and possibility of further development, and problems in the development of water resources. A general summary concludes the article. The first section gives a very good general description of the physical characteristics, climate and rainfall, temperature and humidity, population and utilization, mineral resources, and general economy. The section concerned with water resources development begins with a brief history of the Thailand Royal Irrigation Department and discusses water control projects in the central, northern, northeastern, and southern regions in which areas benefited. Time of construction, headworks, and discharge are summarized. Brief general discussions on underground water development, pumping and emergencies, public water supply, and hydroelectric power development conclude the section. Nine specific projects are discussed in terms of areal benefits and headworks as future development programs. The major problems which have been encountered in Thailand are financing, planning, cooperation among various agencies, proper construction, water charges and laws, and detrimental effects of forest destruction on water resource development. Numerous tables and small-scale maps and photographs illustrate various facets of this report.

H101-01-01-X0 United Nations Economic Commission for Asia and the Far East, Proceedings  
 of the Regional Technical Conference on Water Resources Development in  
 Asia and the Far East. Flood Control Series No. 9, ST/ECAFE/SER.F/9,  
 Bangkok, Thailand, 1956, 449 pp, illus, maps.

See Kanchanalak, Boonchop.

H102-01-03-X0 United Nations Economic Commission for Asia and the Far East, Report of  
 the Committee for Coordination of Investigations of the Lower Mekong Basin.  
 IC E/CN.11/500, Broadbeach, Queensland, Australia, March 7, 1959, 10 pp.  
 JX1977  
 .A2

This is the second report issued by the Committee since its establishment in October 1957. The report describes the Committee's activities for the period of February 1958 through March 1959.

It briefly outlines the program and a table gives the time-frame breakdown for five years and the funds to be spent in the various years on reconnaissance, hydrologic observations, surveying and mapping, related studies, preliminary planning, and advisory service. Various steps are given for the implementation of the program in addition to countries and organizations involved.

HL03-01-05-X0 United Nations Economic Commission for Asia and the Far East, Technical Problems Relating to Flood Control and Water Resources Development of the Mekong--An International River. Flood/8/Revision 1, August 10, 1952.

Not available for review.

H104-01-01-X0 United Nations Economic Commission for Asia and the Far East, Ad Hoc  
 LC Committee of Experts on Inland Transport, Report of the Consultant on  
 JX1977 Inland Waterways and Ports on His Visit to Thailand, March-May 1950.  
 .A2 E/CN.11/Trans/19/Annex IV, United Nations Economic and Social Council,  
 August 17, 1950, Bangkok, Thailand, 17 pp.

This report covers the consultants' recommendations on the inland waterways and general statements are made concerning the physical factors, observations, and recommendations. The observations are broken into administration; river conservancy, irrigation, and navigation; registration and licensing; repair and maintenance service; and the Bangkok harbor. A table giving the navigable waterways and their depths and lengths in central Thailand concludes the report.

H105-01-01-XL United Nations Economic Commission for Asia and the Far East, Bureau of  
 Flood Control. Flood Damage and Flood Control Activities in Asia and the  
 WES Far East. Flood Control Series No. 1, ST/ECAFE/SER.F/1, Bangkok, Thailand,  
 TC405  
 U5 October 1950, 81 pp, illus, maps.

This report is composed of three sections. The first section is a brief summary of the hydrology of Asia and the Far East and includes data on temperature, pressure, wind, precipitation, cyclones, runoff, and silt flow. Undated monthly rainfall statistics are given for many cities, including Saigon, Rangoon, Bangkok, Singapore, and Hanoi, along with mean temperature. Surface wind and mean sea level pressure maps at small scales are given for January and July for all of Asia. Common cyclone types and their respective tracks, hydrographs of discharge for the Chao Phraya (1943) and Irrawaddy Rivers (1948), and the Mekong River water level at Phnompenh and Chaudoc (1942) are given. Unit discharge figures for rivers, including the Chao Phraya, Irrawaddy, Mekong, and Red River, follow. Chapter 2 discusses rice cultivation in the floodplains of these rivers, the protective dikes, and the flood control methods and measures. The third section discusses 19 Asian rivers, including the Chao Phraya and Mekong Rivers within the study area. Data supplied include drainage area length and slope, precipitation, discharge rates, runoff, and silt content. Maps of the river system, inundated areas, and existing dikes complete the report.

HL06-01-02-X0 United Nations Economic Commission for Asia and the Far East, Bureau of  
Flood Control, Methods and Problems of Flood Control in Asia and the Far  
East. Flood Control Series No. 2, ST/ECAFE/SER.F/2, Bangkok, Thailand,  
1951, 45 pp, illus.

This report is divided into two parts: flood-control methods and flood-control problems. Part 1 includes a section on Burma, South Vietnam, Central Vietnam, North Vietnam, Cambodia, Laos, Malaya, and Thailand. It has descriptions of dikes and embankments, including construction, maintenance, and methods of river training. The discussions are very general and the two concerning Thailand and Malaya are exceptionally short. The second portion discusses various topics. The stability of the rivers, with the Mekong, classified as stable and the Chao Phraya as unclassified, is touched upon. A section of dikes and river training is rather extensive and deals with such facets as origin, alignment, construction, upkeep, advantages, and disadvantages. Very general comments are made on storage, diversion, detention of waters, and soil and water conservation. Finally, a table is included pertaining to the soil erosion of the various river basins.

HL07-01-01-X0 United Nations Economic Commission for Asia and the Far East, Bureau of Flood Control, Proceedings of the Regional Technical Conference on Flood Control in Asia and the Far East. Flood Control Series No. 3, ST/ECAFE/SER.F/3, Bangkok, Thailand, 1952, 323 pp.

SEE: Kambhu, Xujati, "Characteristics of floods and prevention of damages in Thailand."

HL08-01-02-XC United Nations Economic Commission for Asia and the Far East, Committee for Coordination of Investigations of the Lower Mekong Basin, Hydrologic and Meteorological System in the Lower Mekong Basin. WRD/MKG/INF/L.71, Phnom Penh, Cambodia, December 29, 1961, 29 pp.

AMS  
GB1336  
MSC74

This is the report of the associate consulting engineer as presented at the sixteenth session (plenary) held on 3-8 January 1962 at Phnom Penh, Cambodia. The report gives the progress made by the Harza Engineering Company on collecting and analyzing data on hydrology, meteorology, and topography. Individual sections on each country covering administrative details and work to be completed at the expiration of Harza's contract, followed by recommendations, complete the report. The location and status of 20 gaging stations are given.

HL09-01-03-X0 United Nations Economic Commission for Asia and the Far East, Committee for Coordination of Investigations on the Lower Mekong Basin, Progress Report of the Executive Agent. WRD/MKG/P.R.4, Bangkok, Thailand, October 9, 1959, 15 pp.

AMS  
TC113  
MSC78

Only this report in this series was examined and it was a very brief progress report for the period 1 September-9 October 1959. It gives organizations and countries participating and the work that they have accomplished or are to participate in for the project.

HL10-01-03-X0 United Nations Economic Commission for Asia and the Far East, Committee for Coordination of Investigations of the Lower Mekong Basin, Report to the Coordination Committee from T. M. Pope, Special Representative of Canada to the Committee. WRD/MKG/INF/L.76, Phnom Penh, Cambodia, January, 1962, 3 pp.

This is a report of the sixteenth session which was held at Phnom Penh, Cambodia, on 3-8 January 1962. It is a progress report of mapping activities in six top priority areas being carried out by Canadian firms. The areas are Stung Battambang tributary, Cambodia; Pa Mong Reservoir in Laos and Thailand; Se San tributary, Vietnam; Nam Pong tributary, Thailand; Nam Ngum tributary, Laos; and Sambor Dam site, Cambodia. The first three areas are being mapped by Canadian Aero Service, Limited, the next two by Hunting Survey Corp., Limited, and the last by Canadian Aero Service, Limited, and Spartan Air Service, Limited. The data given are on area involved and present status and anticipated completion.

HL11-01-02-X0 United Nations Economic Commission for Asia and the Far East, Committee for Coordination of Investigations of the Lower Mekong Basin, Summary Review of "Comprehensive Reconnaissance Report on the Major Tributaries of the Lower Mekong Basin". WRD/MKG/INF/L.73, Phnom Penh, Cambodia, December 20, 1961, 17 pp.

AMS  
TC99  
J37  
1961  
Summary

This is a summary of the report by the Japan Government Reconnaissance Team on the Mekong Tributaries. It is presented in three sections: development of the major tributaries, development of the main stem, and secretariat recommendations. The first section deals with the work done by the Japanese Reconnaissance Team on the 34 main tributaries which comprise 62 percent of the basin

drainage area. A table gives the 34 tributaries, method of survey (aerial or ground), drainage area, the 16 promising tributaries, the eight recommended for further study, and the seven selected for detailed investigation. The second section discusses the Pak Beng, Stung Treng, and Pa Mong reservoirs and notes that the three would have a combined effective storage of 89 billion cubic meters. The roles that various countries are playing in these investigations is noted. The third section recommends that basic data collection be initiated for the remaining nine of the sixteen promising tributaries, that the basin plan be put into force, and that the riparian countries give highest priority in their national mapping programs to those areas covered by projects.

HL12-02-02-XGVC United Nations Food and Agriculture Organization, National Committee,  
LC Thailand, Thailand and Her Agricultural Problems. Thailand Ministry of  
S471 Agriculture, Bangkok, Thailand, March 1949, 116 pp, illus, maps.  
.S5a5  
1949

HL13-02-02-XCG United Nations Survey Mission, Lower Mekong River Basin, Program of  
AMS Studies and Investigations for Comprehensive Development Lower Mekong  
TC99 River Basin. TAA/AFB/3, January 23, 1958, Bangkok, Thailand, 42 pp, maps.  
U35

This report assesses the available data, sources of data, and equipment, and makes recommendations for future work concerning the development of the Lower Mekong River Basin. Basic hydrologic data are extremely scarce and when available the accuracy is questioned. Discharge and velocity measurements are, for the most part, nonexistent and no detailed survey of the bed and banks of the Mekong or sediment loads has been made. Recommendations for gaging and discharge stations along with the approximate cost are given. Only 13 rainfall and evaporation stations are situated within the basin and recommendations are set forth for 445 more. Mapping requirements for the program are given, and it is mentioned that 1:50,000 maps of Cambodia should be completed in 1964. Topics such as mineral resources, forestry, transportation, and cost estimate for the investigations and studies concluded the text. Three maps, "Locations of hydrologic and rainfall stations," "Location and priority of surveys and mapping," and "Extent and priority of leveling," are included. The maps are at a scale 1:4,580,000. The first map shows the locations of existing and proposed recording gages, proposed recording gages and discharge gages, and existing and proposed recording rainfall stations for the watershed of the Mekong River from Ban Houe Sai (Thai-Laos border near Burma) to the Gulf. Major tributaries of the Mekong are also shown. The recording rainfall stations are located by towns and 21 are located in northeast Thailand.

The second map shows the extent of first and second priority aerial mapping and supplementary spot leveling within the Mekong River watershed. Leveling work is mainly located in the delta region, in the vicinity of the Great Lake, and south of Vientiane, Laos, while the aerial mapping is in the immediate vicinity of the Mekong and its tributaries.

The third map shows the first and second priority leveling routes, existing leveling routes, and existing leveling routes to be checked. Leveling routes are concentrated in the delta and are along the Mekong and its major tributaries upstream from the delta.

HL14-01-05-XO United Nations Survey Mission, Lower Mekong River Basin, Reconnaissance  
Report, Lower Mekong River Basin. March 1958.

Not available for review.

HL15-02-01-XLVCS U. S. Army Engineer Waterways Experiment Station, CE, Environmental  
Factors Affecting Ground Mobility in Thailand; Preliminary Survey.  
Technical Report No. 5-625, Vicksburg, Miss.. May 1963, 66 pp,  
illus, maps, appendixes.

HL16-01-02-XGLSVC U. S. Army Map Service, CE, The Military Geography of Southeast Asia  
and Australasia. Engineer Intelligence Survey 85-56, Washington, D. C.,  
May 1957, 20 pp, illus, maps.

HL17-01-02-XO U. S. Army Map Service, CE, Far East, Mekong Reconnaissance Team Maps.  
(Not Published.) December 23, 1960, 1 p, incl.  
DIA/DL  
EIF  
361,249

This report contains explanatory notes concerning the maps prepared by Kokusai Kogyo Co., Limited for the Japanese Government Reconnaissance Team on the Mekong tributaries. It gives the data sources (maps and photographs) used in compiling the maps and the possible errors involved. The 46 maps prepared are filed under the AMS/ML call number of L-23-22.20-31948-V.

HL18-01-04-XO U. S. Army Map Service, CE, Far East, River and Tide Gage Data, Indochina,  
May 2, 1961, 5 pp.  
DIA/DL  
EIF  
366,798

This report is composed of indexes for seven rolls of microfilm including roll number, geodic library microfilm call number, frames, and subject matter. Two indexes are included giving stations and duration of records and station locations on a small-scale map. Stations adjoining Thailand are Vientiane, Thakhek, and Savannakhet, Laos. The Vientiane data are for 1920 through 1959, excluding 1930 and 1942; Thakhek data are for 1947 through 1959, and the Savannakhet data are for 1925 through 1959, excluding 1930 and 1942. The microfilm covers years rather than stations and was not examined in this survey.

HL19-01-01-XGLV U. S. Army Map Service, CE, Far East, Road Reconnaissance Report No.  
1962, Bangkok, Thailand, various dates, various pages.

HL20-01-03-XO U. S. Army Military Attaché, Cambodia, Latest Developments - Lower Mekong River Project. Report No. R-125-59, Phnom Penh, Cambodia, June 24, 1959,  
2 pp.  
DIA/DL  
EIF  
338,435

This report states that the Nam Chi basin of Thailand, the Upper Se San basin in Vietnam, the Battambang River in Cambodia, and the Nam Ngum near Vientiane, Laos, are recommended by the Committee for the Coordination of Investigations in the Lower Mekong Basin for immediate study. The remainder of the report deals with contributions to the program by various countries.

HL21-01-01-XV U. S. Army Military Attaché, Indochina, Trip Report - Upper Mekong River from Luang Prabang to Vientiane. Report No. R-13-55, February 7, 1955,  
5 pp.  
DIA/DL  
EIF  
245,043

Descriptions of forests, agriculture, and communications along the river are presented. Of note is the fact that the river has very little value as a transportation route because of low water depths locally. Nevertheless there are no fords between Luang Prabang and Vientiane.

HL22-01-02-XO U. S. Army Military Attaché, Laos, Trip Report - Mekong River. Report  
R-75-55, Vientiane, Laos, August 15, 1955, 3 pp. photos.  
DIA/DL  
EIF  
259,315

This report discusses traffic on the river from Chieng San to Luang Prabang by local inhabitants. Travel is difficult in dry season because of shallow water and in wet season submerged limestone outcrops present hazards.



Hydrologic Geometry, Text

H123-01-01-XO U. S. Army Military Attaché, Saigon, South Vietnam, Development of Water Resources in the Lower Mekong Basin, Report No. R-301-57, May 10, 1957, 3 pp, incl.  
DIA/DL  
EIF  
297,768

This is a transmittal of a microfilm copy of Development of Water Resources in the Lower Mekong Basin, ECAFE/L.119, Bangkok, Thailand, February 11, 1957, 133 pp, maps. An annotation for this entry appears in this bibliography under United Nations Economic Commission for Asia and the Far East.

H124-01-02-XO U. S. Army Military Attaché, Saigon, South Vietnam, Japanese Survey of Mekong Tributaries, Report No. R-220-59, March 5, 1959, 3 pp.  
DIA/DL  
EIF  
331,898

This article originally appeared in the Vietnam Press on February 4, 1959, under the title "Japan begins survey of Mekong tributaries." It discusses Japan's current five-year program to study the Mekong, and the bulk of the article is devoted to describing the quick aerial inspection and the plans to study 30 to 40 tributaries.

H125-01-01-XO U. S. Army Military Attaché, Thailand, Chainat Dam on the Chao Phraya River. Desp No. R-223-56, 28 August 1956, 11 pp, illus.  
DIA/DL  
EIF  
284,231

This report describes the construction, cost, work items, and personnel involved with the Chainat Dam. The dam, actually a headwork which controls the quantity of water entering a channel, is located at 15°10'N and 100°11'E. It will provide irrigation for 1.4 million acres of new rice lands, supplement 923,000 acres already under partial irrigation, and improve land and water transportation in the Central Plain. Monthly discharge and stage averages for the Chao Phraya are given in tabular form. The main components of the headwork, i.e. spillway or barrage, navigation lock, cutoff channel, and earth closure dam, are discussed pertaining to location, stability, and design. The report concluded with a tabular listing of items of work and personnel for 1952-56 and numerous photographs which illustrate various views of the headworks.

H126-01-02-XO U. S. Army Military Attaché, Thailand, Flooding in the Korat Area, Report No. R-254-53, September 8, 1953, 1 p.  
DIA/DL  
EIF  
214,235

The reporting officer states there is no flooding present in the Khorat area. Areas of flooding are limited to the Mae Nam Mun and particularly where it joins the Mekong.

H127-01-05-XO U. S. Army Military Attaché, Thailand, Ground Water Investigations, Thailand, Report No. R-417-57, September 5, 1957, 2 pp.  
DIA/DL  
EIF  
304,871

Not available for review.

H128-01-02-XO U. S. Army Military Attaché, Thailand, Water Supply in Northeast Thailand, Report No. R-322-52, December 3, 1952, 7 pp, illus, map.  
DIA/DL  
EIF  
192,562

This article originally appeared in the Bangkok Post on October 4, 1952, and was later reprinted by the United States Information Service. It tells of planned irrigation projects, 22 of which have been constructed and 21 which are under construction. Illustrations show various phases of construction, and a small-scale map shows the locations of tanks completed, under construction, and planned.

H129-01-01-X0

DIA/DL

EIF

355,972

U. S. Army Military Attaché, Vientiane, Laos, Navigation Problems on the Mekong Including FAL Requirements for River Craft, Report No. R-62-60, March 3, 1960, 8 pp, illus, map.

This report was prepared for the Chief, PEO, by an engineer, T. B. Hunter, on October 30, 1959. The purpose of the report was to determine ways and means of getting LCM-6's into Laos and to investigate the possible use of small amphibious craft. A ground reconnaissance was made of the Khone Falls area, particularly the old marine railway. Hydrologic data on flood stages and crests were gathered and aerial reconnaissances were made. As a result of the investigations, portage operations and improvement of the low water channel was recommended. A program for rehabilitating the old marine railway, hydrologic data, and maps of the area conclude the report. The study was concentrated in the vicinity of Khone Falls, but limited discussions of the river as far north as Luang Prabang, Laos, are included. The hydrologic data presented in this report include the annual peak stages at Vientiane and Pakse, Laos, for the years 1902-1959, with August being the month in which it is most likely to occur.

H130-01-05-X0

DIA/DL

EIF

345,253

U. S. Army, Pacific, C-2, Navigation Problems on the Mekong, Including Requirements for River Craft, AMS Memo 4-6, October 30, 1959, 10 pp.

This EIF has been cancelled. SEE: EIF 355,972 by the U. S. Army Military Attaché, Vientiane, Laos, "Navigation problems on the Mekong, including FAL requirements for river craft." Not available for review.

H131-02-02-XCLSV

U. S. Army Quartermaster General, Research and Development Division, Environment of Southeast Asia, Environment Protection Division Report No. 219, Natick, Mass., August 1953, 45 pp, illus, maps.

H132-01-01-XS

U. S. Bureau of Reclamation, Aggregate and Concrete Investigation for Bhuriphol Dam - Yanhee Project, Concrete Laboratory Report No. C-845, Thailand Royal Irrigation Department, January 2, 1958.

H133-01-05-X0

U. S. Bureau of Reclamation, Development Plan for the Yanhee Project, Denver, Colo., 1953.

Not available for review.

H134-01-03-X0

DIA/DL

EIF

245,446

U. S. Bureau of Reclamation, Diary--Yan Hee Advisory Team, Unpublished, 1953, 30 pp.

This is a day-by-day account of a trip taken by seven U. S. Bureau of Reclamation representatives from 20 September to 12 November 1953. The group arrived in Bangkok on 1 October and worked until 8 November 1953. They investigated the Yanhee project planning to clarify some points for the International Bank to which a loan application had been made. Primary considerations were a comparison of thermal power and hydropower in Thailand, evaluation of proposed damsites, alleged multipurpose benefits, power market survey, Bangkok electrical distribution system, Kang Nienj Damsite on the Mekong River, and problems of transporting equipment to the site. The bulk of this report discusses the trips made in Thailand and the preliminary investigations conducted at the damsite.

In answer to the original questions raised, the following statements were given: hydropower seems to be the most feasible power in Thailand; site two of the possible four is tentatively chosen as the best; multipurpose benefits do exist, but the project will be detrimental to navigation from the site to Nakhon Phanom; a market for power generated is available; Bangkok and other towns' distribution systems will have to be rebuilt before they can absorb Yanhee

power; the Kang Rieng site would do no more than take care of the immediate power needs; and the problem of transporting materials and equipment to the damsite offers no serious problem. Generally, the proposed project is feasible, the foundation rock at the site is excellent, and the water supply is good. The Yannee interim report should have been issued by U. S. Bureau of Reclamation in January 1954 and the final report should have been issued in April 1954.

H135-01-03-XO U. S. Bureau of Reclamation, Preliminary Study Pa Mong Project, Lower Mekong River Basin, Thailand-Laos. January 1962, 31 pp.  
DIA/DL  
RIF  
44,716

This report was prepared to survey and evaluate the data available for the Pa Mong project and to delineate those areas in which more data are needed. A program was suggested to supply the needed data. The Lower Mekong Basin is the Mekong drainage below the Burma-Thailand-Laos border. The report deals with the topics of surveys as mapping, geology, construction materials, design and estimates, land classification, agriculture, and power. The U. S. Bureau of Reclamation believes that the comprehensive investigation outlined in the suggested program is needed to determine the feasibility of the proposed project. A time schedule of 9 fiscal years is set up for each phase of the study.

H136-01-01-XL U. S. Bureau of Reclamation, Reconnaissance Report, Lower Mekong River Basin, Prepared for the International Cooperation Administration, Washington, D. C., March 1956, 211 pp, illus, maps.  
ANS  
TC113  
MSU58

The data for this report were collected by a reconnaissance team from 3 December 1955 to 14 January 1956 in parts of Thailand, Laos, Cambodia, and South Vietnam which form the Lower Mekong River basin. The volume is divided into two parts: the text (36 pages) and the appendixes (175 pages).

The text, following introductory remarks, has short sections on basic data (streamflow, sediment and quality of water, climate, and mapping), navigation, irrigation and agriculture, power, flood control, and municipal water. Although quantitative data are abundant, only a small percentage is related to terrain.

The appendixes offer more detail. A variety of graphs, maps, tabulated data, and photographs cover all facets of the text. The four maps included show climatological and river elevation stations, irrigation and agricultural development projects, Port de Can Tho of Vietnam, and fisheries of the Grand Lakes in Cambodia. The second of these maps also has a CIA/NSA call number of R-501, 53789. The bibliography, which concludes the report, contains 101 references.

H137-01-03-XO U. S. Bureau of Reclamation, Report of Preliminary Design of the Chao Phraya River Dam. Compiled by H. C. Combs, Denver, Colo., 1951, 26 pp.

This report presents the findings of the review of the engineering feasibility of the Chao Phraya Dam, as set forth by the Thailand Royal Irrigation Department. The original report was reviewed from the standpoint of design computations, structural stability, adequacy of hydrologic data, adequacy of spillway capacity, review of model studies, and verification of soil testing procedures and results. The discussions are technical in nature, and the preliminary design was not altered greatly.

H138-02-01-XO U. S. Bureau of Reclamation, Report on Yannee Project, Thailand for Power, Irrigation, Flood Control and Navigation, Prepared for the Royal Irrigation Department of Thailand, Denver, Colo., December 1955, 2 volumes, illus, maps.  
WES  
TC550  
13  
Vols  
1 & 2

The purpose of this very detailed report is to present the findings, conclusions, and recommendations of the U. S. Bureau of Reclamation's investigation of the feasibility of the Yannee project. Volume one presents the results of the investigation and includes a wide variety of subjects including a description of the project, geology, and hydrology. Volume two is comprised of three appendixes concerning the subjects of inflow design flood, engineering geology, and

transmission system investigations. It is estimated that the Yanhee project will eventually aid nearly 50 percent of the country, and the program is found to be sound in design. It is recommended that the program be accepted and implemented immediately. The damsite proper is located at Khao Kaew, approximately 43 kilometers above Tak on the Mae Ping River, and is in an area of extremely hard, limy quartzite of steep rocky slopes. The total drainage of the reservoir basin is 26,400 square kilometers within Thailand. Rainfall is principally due to the southwest monsoon during May-October when over 90 percent of the annual precipitation of 42 inches falls. Rainfall, streamflow, and sediment load are discussed in general terms and a monthly water-flow table of the Ping River at the damsite for the years 1934-1955 is included. A power-production section discusses the reservoir operation and plant capacity. A figure showing water-surface area versus depth of reservoir gives a general idea of the reservoir, and a small topographical map with different powerhouse locations is given. The remainder of the volume is concerned with design, cost, etc., which are of no particular interest to the MERS program. Section one of volume two goes into moderate detail with descriptions of the Mae Ping River basin, rainfall, runoff, and the floods of 1941, 1952, and 1953. Several hydrographs and charts are included. The engineering geology section describes general geology of four possible sites, physical and petrographic properties of the rocks, and the geology of the reservoir area. Logs of 27 exploratory holes are included which give the geologic log, core recovery, and pressure test data. Six geologic maps and results of laboratory tests conclude the section. The third section on transmission systems investigations is beyond the scope of this study. Fourteen of the maps included in volumes one and two give data which may be of limited use.

The "Ping River basin above Tak" map (figure 1, page 29) at a scale of 1:1,815,000, dated January 22, 1954, was the only noteworthy hydrology map. This map shows precipitation and stream gaging station in the watersheds of the Ping and Wang Rivers. Drainage and towns, in addition to the damsite, are included as incidental features.

Six general and topographic maps are included. The "Transmission system investigations Yanhee power project-Thailand map of Central Thailand," Drawing No. OA-18-8, is dated January 1954 and has a scale of 1:2,380,000. This map shows the dam location, railways, drainage, highways, highways under construction, political boundaries, major cities and towns with names, and unnamed towns and villages. Area covered is from the Gulf of Thailand northward to north of Chiang Mai and from the Burma border eastward to east of Nakhon Ratchasima.

Drawing No. OA-18-155, "Yanhee Dam and power plant diversion of river plan and sections," at a scale of 1:2015, is dated October 10, 1955. This map shows the topography of the immediate damsite with 2-meter contours, location of dam, location of cofferdams, and location of diversion tunnels. Sections through the diversion tunnels, dam, cofferdams, and closure structure of tunnels are shown.

"Yanhee Dam and power plant two unit initial installation plan and section," Drawing No. OA-18-156, is a map at a scale of 1:3075 dated October 12, 1955. This map shows the plan view of the immediate damsite with dam, electrical switchyard, spillway, and 2-meter contours. The map also shows sections through the outlet, spillway, and penstocks.

The "Yanhee power plant powerhouse location study," Drawing No. OA-18-149, is at a scale of 1:2015. This map shows the topography of the immediate damsite with 10-meter contours and three proposed locations of the powerhouse. Included are the upstream lines for the power plant excavation to avoid weakening of the major stress zone of the dam abutments.

A similar map, "Yanhee damsite location of exploration," Drawing No. OA-18-86, is dated November 1954 and is at a scale of 1:2400. This map shows the topography of the immediate damsite area with 10- and 50-ft contour intervals, locations of borings, sections, dam, cofferdams, diversion tunnel, and powerhouse.

The "Yanhee project - Thailand location and key maps," Drawing No. OA-18-61, is at a scale of 1:4,000,000 and dated June 1, 1954. This map shows the portion of Thailand benefited by the Yanhee project. Dam location, railroads, roads, and major drainage and towns are included.

There are several geologic maps and cross sections. The map entitled "Yanhee reservoir geology," Drawing No. OA-18-84, is dated November 1954 and is at a scale of 1:393,700. This map shows the geology along a strip ranging from 1000 to 4000 meters wide along either side of the Mae Ping River from 17°N to 18°07'N. Units mapped are alluvium; limestone; slate and quartzite; hornfels, crystalline limestone, and schist; and granite. Dip, strike, anticlinal axis, and synclinal axis are included.

The map entitled "Yanhee Dam and power plant geology location of exploration," Drawing No. OA-18-184, is dated August 31, 1955, and is at a scale of 1:2915. It shows the topography of the immediate damsite area with 10-meter contour lines, location of drill holes, dam, power plant, diversion tunnel, and geology. Units mapped are soil and talus, hornfels, crystalline limestone, mica schist, and mica schist interbedded by hornfels. Strike, dip, and minor faults are shown for spot locations.

"Yanhee Dam site geologic map," Drawing No. OA-18-85, is dated November 1, 1954, and is at a scale of 1:2400. It shows the topography of the immediate damsite area with 10- and 50-ft contour intervals, locations of dam, diversion tunnel, borings, powerhouse, and geology. Units mapped are soil and talus, hornfels under thin spotty cover, crystalline limestone, mica schist, and mica schist interbedded with hornfels. Strike, dip, and minor faults are included.

## Hydrologic Geometry, Text

There are four geologic section drawings. The "Yanhee Dam site geologic sections along axis and downstream toe," Drawing No. OA-18-154, is dated September 23, 1955, and is at a scale of 1:3937. These developed profiles show the top elevation of the dam, ground surface, excavation surface, and rock profile beneath the river. The rock profile is estimated from the nearest drill holes.

"Yanhee Dam site geologic sections D-D and E-E," Drawing No. OA-18-87, is dated November 1954 and is at a scale of 1:1060. Section D-D is along the axis of the dam and section E-E is across the river just downstream from the dam.

"Yanhee Dam site geologic sections F-F and G-G," Drawing No. OA-18-88, is dated November 1954 and is at a scale of 1:955. Section F-F is across the river downstream from the damsite and has two borings included while section G-G is across the river upstream and contains four borings.

The final illustration worthy of mention is "Yanhee Dam site geologic sections J-J and H-H," Drawing No. OA-18-89, which is dated November 1954 and is at a scale of 1:2380. Section H-H is along the approximate center line of the river and section J-J is along the diversion and spillway tunnel.

HL39-01-01-XS

U. S. Bureau of Reclamation, Schedule, General Provisions, Specifications, and Drawings, Yanhee Dam and Powerplant, Yanhee Project, Thailand. Prepared for the Thailand Royal Irrigation Department, Ministry of Agriculture, Denver, Colo., June 1957, 220 pp, illus.

This report is an invitation to bid and covers special and local conditions, general provisions, and all phases connected with construction, such as concrete, earthwork, grouting, drainage, anchor bars, etc. Specifications and a large section of drawings showing dimensions of each phase of construction are included. A location map places the damsite on the Ping River just upstream from its junction with the Wang River. Small-scale drilling logs are given for 32 borings in the damsite area. Hydrographs of the Ping River at Wang Kra Chao, located 4.25 kilometers below the damsite, are given for the years 1952 through 1955, and at Tak, located downstream after junction with the Wang River, for the years 1934 through 1955. A vicinity map is included.

HL40-01-02-XLS

U. S. Bureau of Reclamation, Supporting Data on Construction and Materials for Yanhee Project Report, Thailand. Denver, Colo., 1954.

AMS  
TC113  
T3U58

This report was prepared to record observations made and data collected relative to construction and construction materials. It contains general site description, climatic data, sources of construction material, temperature of air and water at damsite and river deposits. Several figures are included showing the mechanical analysis of sands and gravel from various locations near the dam. Photographs of the Yanhee project and the Chao Phraya site plus a location map conclude the report.

HL41-01-05-X0

U. S. Central Intelligence Agency, Mekong River and Its Influence on Agriculture. Report No. OO-W-825, October 26, 1948, not paged.

Not available for review.

U. S. Department of State, American Embassy

SEE: U. S. Embassy, Thailand

HL42-01-03-X0

U. S. Embassy, Laos, Survey of Pamong Dam Site by U. S. Bureau of Reclamation Team, November 1-5, 1961.\* Desp No. 93, November 16, 1961, 8 pp.

DIA/DL  
EIF  
380,418

This is a concise report on a preliminary investigation of the damsite by three U. S. Bureau of Reclamation representatives, two Australian geologists, three Economic Commission for Asia and the Far East officials, and one Thai official. The group made an aerial inspection of the damsite,

\* For official use only.

which is about 30 kilometers west of Vientiane, Laos, a river trip to the damsite and vicinity, and a visit to a United Nations pilot irrigation project. The proposed dam would cost 400 million dollars, and construction could not begin for 15 years. Generalities of the project, advantages, and disadvantages were discussed.

HL43-01-02-XO U. S. Embassy, South Vietnam, Characteristics of the Port of Saigon, the Delta Waterways, and the Mekong River.\* Desp No. 120, Saigon, South Vietnam, October 14, 1955, 22 pp, illus.  
DIA/DL  
EIF  
258,617

This report presents information on the facilities and capacities of the Saigon port, the inland waterways of the delta, Mekong navigation to Phnom Penh, and some problems of navigation in Laos. It has sections on the port, trade statistics, port charges, the delta region, vessels on the lower Mekong, and the upper reaches. A few length, depth, and width dimensions are given for the navigation routes as well as the better known hazards. Charts and photographs of harbor and waterways were supposed to be included but were forwarded to the Transportation Officer, ICA/ Washington instead.

HL44-01-03-XO U. S. Embassy, Thailand, Survey of Development Possibilities of the Lower Mekong River. Desp No. 491, Bangkok, Thailand, January 3, 1958, 1 p.  
DIA/DL  
EIF  
310,814

This dispatch simply relates that General Wheeler and his staff have completed their field survey of the lower Mekong River. The report was supposed to be completed about four weeks after this dispatch and presented to the Committee for Coordination of Investigations of the Lower Mekong River basin in Bangkok about the third week of February 1958.

HL45-01-02-XO U. S. Information Service, Water: Lifeblood of the Northeast. Reprinted from the Bangkok Post, Post Publishing Company, Limited, Bangkok, Thailand, October 4, 1952, 7 pp, illus, map.  
SEE: U. S. Army Military Attaché, Thailand, Water Supply in Northeast Thailand. Report No. R-322-52, December 3, 1952, 7 pp, illus.

HL46-01-03-XL U. S. Navy, Naval Attaché, South Vietnam, Southeast Asia: The Mekong Aerial Survey Project. Serial No. 276-60, December 23, 1960, 10 pp.  
DIA/DL  
EIF  
363,405

This report was presented at the Economic Commission for Asia and the Far East aerial seminar in Bangkok during January 1960 by R. A. Brocklebank and published in the "Vietnam Press" on December 1, 1960, from which it was taken for this report. It presents background for the Lower Mekong basin project giving the agencies involved and dividing the project into phases of aerial photography, ground control surveys, and topographic mapping. The author gives detailed descriptions of the work to be done, how it is to be accomplished, and the accuracy of the finished product.

HL47-01-05-XO U. S. Navy, Naval Attaché, South Vietnam, Vietnam-Cambodia-Laos-Thailand, Mekong Hydrographic Survey. Serial No. 223-60, Saigon, South Vietnam, November 9, 1960, 3 pp.  
DIA/DL  
EIF  
361,218

Not available for review.

\* For official use only.

H148-01-01-XO      United States Operations Mission Laos, Transmittal of River and Road Survey Reports. Vientiane, Laos, December 28, 1959, 18 pp.  
DIA/DL  
EIF  
343,591

This is the report of two trips on the Mekong to determine its capabilities as a transportation route between Vientiane and Luang Prabang, Laos. The first trip was made during the period of 20 August to 10 September 1959 and the second during 27 November to 8 December 1959. During the first trip, the current averaged 6 kilometers per hour, and depths were greater than 10 ft. During the second trip, the current averaged 6-1/2 kilometers per hour, with the maximum being 12 kilometers per hour, and the minimum depth was approximately 9 ft. The second report contains a log which gives data, time, and incidents such as underway, village on either side, sandbar, and rocks in the river. The conclusion is reached that transportation via LCM (6)'s is feasible during the period of 1 May to 31 December during a normal year. Photographs were taken along the route but are not included in this report.

H149-02-02-XLSVC      University of Michigan, Department of Geography, Analysis of Geographic and Climatic Factors in Coastal Southeast Asia. Office of Research Administration Report No. 04231-1-F, Ann Arbor, Mich., March 1962, 178 pp, maps. (Prepared under U. S. Army Quartermaster Research and Development Command Contract No. DA-19-129-QM-1655.)

Van Der Heide, J. Homan  
SEE: Heide, J. Homan van der

H150-01-05-XO      Ward, T. R. J., Report on a Scheme for the Irrigation of so Much of the Menam Chao Phraya as May be Possible for a Capital Outlay of One and Three Quarters Millions Sterling. Bangkok Daily Mail, Bangkok, Thailand, 1915, 28 pp.

Not available for review.

H151-01-02-XO      "Water: lifeblood of the Northeast." Bangkok Post, Post Publishing Company, Limited, Bangkok, Thailand (October 4, 1952), 7 pp, illus, map.  
SEE: U. S. Army Military Attaché, Thailand, Water Supply in Northeast Thailand. Report No. R-322-52, December 3, 1952, 7 pp, illus.

H152-01-03-XO      White, Gilbert F., "The Mekong River plan." Scientific American, vol 208, No. 4, New York, N. Y. (April 1963), pp 49-59.

LC  
T1  
.S5

A general overall view of the plan and the roles that the four riparian countries are to play and the benefits they will receive are presented in this report. Some contributing countries are mentioned and the author expresses his personal feelings as to which steps should be implemented first in the development scheme.

Maps

- H153-03-02-X0 Ahlf, August L., "Map of greater Chao Phraya project of Thailand showing flood control features." 1:700,000, U. S. Bureau of Reclamation, Denver, Colo., August 1, 1956.
- SEE: Ahlf, August L., Technical Record of the Design of the Greater Chao Phraya Project of Thailand. Unpublished, U. S. Bureau of Reclamation, Denver, Colo., August 1, 1956, 49 pp, illus, maps.
- H154-03-02-X0 Ahlf, August L., "Map of greater Chao Phraya project of Thailand showing irrigation systems." 1:700,000, U. S. Bureau of Reclamation, Denver, Colo., August 1, 1956.
- SEE: Ahlf, August L., Technical Record of the Design of the Greater Chao Phraya Project of Thailand. Unpublished, U. S. Bureau of Reclamation, Denver, Colo., August 1, 1956, 49 pp, illus, maps.
- H155-03-02-X0 Ahlf, August, L., "Map of greater Chao Phraya project of Thailand showing principal features." 1:700,000, U. S. Bureau of Reclamation, Denver, Colo., August 1, 1956.
- SEE: Ahlf, August L., Technical Record of the Design of the Greater Chao Phraya Project of Thailand. Unpublished, U. S. Bureau of Reclamation, Denver, Colo., August 1, 1956, 49 pp, illus, maps.
- H156-03-01-X0 Baker, Vernon W., and Stanley, William R., "Northeast irrigation region showing tank irrigation projects and perennial flowing streams with minimum discharges." 1:1,170,000, United States Operation Mission, Bangkok, Thailand, 1955.
- CIA/ML  
H503-1  
97,252
- SEE: Baker, Vernon W., and Stanley, William R., A Special Review of the Tank Irrigation Program in Northeast Thailand. United States Operation Mission, Bangkok, Thailand, July 7, 1955, 30 pp, illus, maps.
- H157-03-03-X0 Charaljavanaphet, Jumchet, "Map of Northeast Thailand proposed test drilling patteru." 1:2,500,000, Bangkok, Thailand, 1955.
- SEE: Charaljavanaphet, Jumchet, "Artesian conditions in Northeast Thailand," Report of Investigation No. 1. Thailand Dept of Mines, Bangkok, Thailand, 1955, in the Soils and Geology section of this bibliography.
- H158-03-01-X0 Chuchat, Kamphu, "Map of locations of survey stations for measuring water and periods of time covered by surveys of the Mae Nam Ping and Mae Nam Wang basins." 1:500,000. Khrong Kan Fai Pa Phland Nam Yan Hi, Bangkok, Thailand, 1958
- CIA/ML  
H503-22  
117,020

The map, written in Thai, appears to show the hydrographs of the streams at various cities, mostly from a 4-yr period but in one case from the interval 1831 to 1957. Values are for entire years.



Hydrologic Geometry, Maps

H159-03-01-X0            Commission de Delimitation de la Frontiere entre l'Indochine et la  
Thailand 1941-1942, "Carte de la Frontiere du Mekong." 1:25,000  
AMS/ML  
2L-2-28-567-25        (Approx), Saigon, South Vietnam, 1942.  
Folder file

This map, printed in French, is a continuous sheet folded accordion style showing the Mekong River from Xieng Sen to just below Stung Treng. It is at a scale of 1:25,000, except the lower portion south of Khone Gney which is at 1:100,000. The legend lists symbols for ligne for fiere, voyants a la berge (basses eaux, moyennes eaux, hautex eaux), balises moyennes eaux, and signaux frismatiques ciment arme. The map apparently shows sandbars and stoney areas, but these are not identified in a legend. Occasional depth and distance markings are given in kilometers. Any areas or features not in the immediate vicinity of the river are not mapped.

H160-03-03-X0            Daniel, Mann, Johnson, and Mendenhall, International, "Map of NE Thailand,  
exploration hole location." 1:1,000,000, Bangkok, Thailand, July 1961.  
CIA/ML  
H503-22                SEE: Daniel, Mann, Johnson, and Mendenhall, International, Ground Water  
136,003                Exploration of the Khorat Plateau, Final Report. Wat Areekul  
Press, Bangkok, Thailand, July 1961, 41 pp, illus, maps.

H161-03-02-X0            Daniel, Mann, Johnson, and Mendenhall, International, "Map of NE Thailand,  
groundwater province chart." 1:1,000,000, Bangkok, Thailand, July 1961.  
CIA/ML  
H503-22                SEE: Daniel, Mann, Johnson, and Mendenhall, International, Ground Water  
136,001                Exploration of the Khorat Plateau, Final Report. Wat Areekul  
Press, Bangkok, Thailand, July 1961, 41 pp, illus, maps.

H162-03-02-X0            Daniel, Mann, Johnson, and Mendenhall, International, "Map of NE Thailand,  
isosalinity chart." 1:1,000,000, Bangkok, Thailand, July 1961.  
CIA/ML  
H503-22                SEE: Daniel, Mann, Johnson, and Mendenhall, International, Ground Water  
136,002                Exploration of the Khorat Plateau, Final Report. Wat Areekul  
Press, Bangkok, Thailand, July 1961, 41 pp, illus, maps.

H163-03-05-X0            Great Britain Interservice Topographical Department, "Canals of Central  
Thailand." 1:1,000,000, 1942.

Not available for review.

H164-03-02-X0            Harza Engineering Company, "Location of hydrologic installations."\*\*  
1:5,000,000, Chicago, Ill., January 24, 1961.  
SEE: Harza Engineering Company, Fourth Semi-Annual Progress Report  
for Period November 1, 1960 to April 30, 1961, Lower Mekong  
River Project. Chicago Ill, July 7, 1961, 38 pp,  
illus.

H165-03-03-X0            Harza Engineering Company, "Proposed distribution of field work."\*\*  
Chicago, Ill., no. scale, May 1960.  
SEE: Harza Engineering Company, Revised Program for Lower Mekong River  
Project Contract Year 1960-1961. Chicago, Ill., June 30, 1960,  
19 pp, illus.

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\* For official use only.

H166-03-02-X0

Haworth, Howard F.; Javanaphet, Junchet C.; and Chiangmai, Pongpan Na; "Map of Northeast Thailand." 1:1,000,000, Thailand Royal Department of Mines, Bangkok, Thailand, October 9, 1958.

SEE: Haworth, Howard F.; Javanaphet, Junchet C.; and Chiangmai, Pongpan Na; Report on Groundwater Exploration and Development of the Korat Plateau Region. Prepared in cooperation with the U. S. Operation to Thailand, 1959, 72 pp, illus, maps.

H167-03-01-X0

Japanese Army, G-1 7970 Unit Headquarters, "Nakhon Nayok to Saraburi." 1:50,000, 1914.

AMS/ML

5L-23-30.00-31183-50

These six monochrome sheets are printed in Japanese and cover an area from 14°10' to 14°30'N and 100°50'E to 101°20'E. One sheet was examined which showed cultural features, drainage, and communication routes with the canals having some additional information included. The sheets cover 10-minutes square and have tick coordinates at the 5-minute mark. An ozalid index of coverage is available.

H168-03-02-X0

Japan Government, Reconnaissance Team on the Mekong Tributaries, "General map of the Lower Mekong basin." 1:1,000,000, Tokyo, Japan, September 1961.

AMS

L-2-22.2

31,950-1.000/2

SEE: Japan Government, Reconnaissance Team on the Mekong Tributaries, Comprehensive Reconnaissance Report on the Major Tributaries of the Lower Mekong Basin. Tokyo, Japan, September 1961, 232 pp, maps.

H169-03-01-X0

Japan Government, Reconnaissance Team on the Mekong Tributaries (Ohya, Masahiko, author), "Topographical survey map of Lower Nam Mue showing the classification of flood stricken areas." 1:50,000, Tokyo, Japan, September 1961.

AMS/ML

5L-32-22.65

31,950-50

SEE: Japan Government, Reconnaissance Team on the Mekong Tributaries, Comprehensive Reconnaissance Report on the Major Tributaries of the Lower Mekong Basin. Tokyo, Japan, September 1961, 232 pp, maps.

H170-03-01-X0

Japan Government, Reconnaissance Team on the Mekong Tributaries (Ohya, Masahiko, author), "Topographical survey map of Nam Gam showing the classification of flood stricken area." 1:50,000, Tokyo, Japan, September 1961.

AMS/ML

5L-32-22.65

31,950-50

SEE: Japan Government, Reconnaissance Team on the Mekong Tributaries, Comprehensive Reconnaissance Report on the Major Tributaries of the Lower Mekong Basin. Tokyo, Japan, September 1961, 232 pp, maps.

H171-03-03-X0

Koncbhan, J., "Plan of Bangkok indicating well of the Bangkok water works." 1:30,000, 195\_\_\_\_.

AMS/ML

5L-41-7.65

100-30

Hydrologic Geometry, Maps

The locations of about 15 wells within the city are shown on a base map entitled "Plan of Bangkok for tourist" that shows roads, canals, rivers, and cultural features.

H172-03-02-X0 LaMoreaux, Philip E., et al., "Map of Khorat Plateau showing location of wells." 1:100,000, U. S. Geological Survey, Washington, D. C., 1958.

SEE: LaMoreaux, Philip E., et al., Reconnaissance of the Geology and Groundwater of the Khorat Plateau, Thailand. U. S. Geological Survey Water Supply Paper No. 1429, Washington, D. C., 1958, 62 pp, illus, maps.

H173-03-02-X0 Laos Circonscription Territoriale des Travaux Publics (Public Works Territorial District), "Navigation du Mekong." 1:25,000, 1940-1941.

AMS/ML  
42L-23-22.2  
35,030-25

These four colored sections show the river from Chiang Khan to Khone along with its navigation properties. Lines of navigation, bouys, ladders, loading docks, sandbars, rock shoals, and villages along the river are shown. Starting with the Khone station at kilometer 0, there are approximately 1000 kilometers of the river shown.

H174-03-02-X0 "Map of Thailand showing locations of tank irrigation projects completed and under construction April 30, 1954." 1:4,500,000, Bangkok, Thailand, 1954.

CIA/ML  
H503-1  
90,169

The map shows the locations of 64 completed projects and 46 under construction, all in the northeastern part of Thailand. Railways, proposed and completed state highways, drainage, and towns are shown.

H175-03-02-X0 Montrakun, Sarot and Moormann, F. R., "Hual Si Thon project map showing irrigation-land classes." 1:19,350 ± 150, Thailand Ministry of Agriculture, Bangkok, Thailand, June 1962.

SEE: Montrakun, Sarot and Moormann, F. R., "Report on the soil survey of the Hual Si Thon irrigation project." Miscellaneous Soil Reports of the Department of Rice, Department of Agriculture, and the Royal Irrigation Department, No. 5, Thailand Ministry of Agriculture, Bangkok, Thailand, June 1962, 19 pp, illus, map.

H176-03-02-X0 Moormann, F. R., "Mae Klong project map showing irrigation zones." 1:250,000, Thailand Ministry of Agriculture, Bangkok, Thailand, May 1962.

SEE: Moormann, F. R., "Report on the preliminary soil survey of the Mae Klong irrigation project area." Miscellaneous Soil Reports of the Royal Irrigation Department, Department of Agriculture, and the Department of Rice, No. 1, Thailand Ministry of Agriculture, Bangkok, Thailand, May 1962, 27 pp, illus, maps.

H177-03-03-X0

AMS/ML

5L-2-22.6

31,219-13.000

Nippon Yusen Kaisha Line, "N. Y. K. world wide passenger and freight lines." 1:13,000,000, 1942.

The map shows the routes and ports of call of the shipping line.

H178-03-02-X0

Poomvises, Vira; Moormann, F. R.; and Montrakun, Sarot; "Lam Pao irrigation project land classification map for irrigated upland crops." 1:50,000, Thailand Ministry of Agriculture, Bangkok, Thailand, February 1963.

SEE: Poomvises, Vira; Moormann, F. R.; and Montrakun, Sarot; "Detailed reconnaissance soil survey of the Lam Pao irrigation project (Kalasin Province)." Miscellaneous Soil Reports of the Royal Irrigation Department, Department of Agriculture, and the Department of Rice, No. 12, Thailand Ministry of Agriculture, Bangkok, Thailand, February 1963, 29 pp, illus, maps.

H179-03-02-X0

Poomvises, Vira; Moormann, F. R.; and Montrakun, Sarot; "Lam Pao irrigation project land classification map for rice." 1:50,000, Thailand Ministry of Agriculture, Bangkok, Thailand, February 1963.

SEE: Poomvises, Vira; Moormann, F. R.; and Montrakun, Sarot; "Detailed reconnaissance soil survey of the Lam Pao irrigation project (Kalasin Province)." Miscellaneous Soil Reports of the Royal Irrigation Department, Department of Agriculture, and the Department of Rice, No. 12, Thailand Ministry of Agriculture, Bangkok, Thailand, February 1963, 29 pp, illus, maps.

H180-03-02-X0

Poomvises, Vira; Moormann, F. R.; Ratanaprayura, Chalermthep; and Montrakun, Sarot; "Mae Taeng irrigation project land classification map for irrigated upland crops." 1:50,000, Thailand Ministry of National Development, Bangkok, Thailand, April 1963.

SEE: Poomvises, Vira; Moormann, F. R.; Ratanaprayura, Chalermthep; and Montrakun, Sarot; "Detailed reconnaissance soil survey of the Mae Taeng irrigation project (Chiang Mai Province)." Miscellaneous Soil Reports of the Royal Irrigation Department, Department of Agriculture, and the Department of Rice, No. 14, Thailand Ministry of National Development, Bangkok, Thailand, April 1963, 18 pp, illus, maps.

H181-03-02-X0

Poomvises, Vira; Moormann, F. R.; Ratanaprayura, Chalermthep; and Montrakun, Sarot; "Mae Taeng irrigation project land classification map for rice." 1:50,000, Thailand Ministry of National Development, Bangkok Thailand, April 1963.

SEE: Poomvises, Vira; Moormann, F. R.; Ratanaprayura, Chalermthep; and Montrakun, Sarot; "Detailed reconnaissance soil survey of the Mae Taeng

irrigation project (Chiang Mai Province). " Miscellaneous Soil Reports of the Royal Irrigation Department, Department of Agriculture, and the Department of Rice, No. 14, Thailand Ministry of National Development, Bangkok, Thailand, April 1963, 18 pp, illus, maps.

H182-03-02-XO

CIA/ML  
H503-1  
76,209

Siam Royal Irrigation Department, "Irrigation map showing works completed and proposed in progress according to the 2465 programme in the plain of Central Siam." 1:400,000, Bangkok, Siam, 1927.

SEE: Siam Royal Irrigation Department, Administration Report of the Royal Irrigation Department of Siam for the period 2447 B.E. - 2468 B.E. (1914-1915) - (1925-1926). Bangkok Times Press, Limited, Bangkok, Siam, February 1927, 219 pp, map.

H183-03-02-XO

Siam Royal Irrigation Department, "Irrigation map showing works completed and proposed and in progress in the plain of Central Siam." 1:400,000 map No. 15292, Bangkok, Siam, 1949.

A photocopy of this colored map was reviewed. It covers the geographic area of 13°N to 16°N and 99°30'E to 101°40'E, but only the floodplain from Chainat southward is mapped. It shows the site of the barrage and one tract completed, two in progress, and seven proposed.

H184-03-02-XO

Thailand Ministry of Agriculture, "Map of Thailand showing location of tanks completed and to be completed in 1955." 1:5,000,000 (approx), map No. 31417, Bangkok, Thailand, 1957.

SEE: Thailand Ministry of Agriculture, Agriculture in Thailand, Bangkok, Thailand, 1957, 263 pp, illus, maps.

H185-03-01-XO

AMS/ML  
5L-63-22.40  
36322-V

Thailand Port Authority, Marine Department, "Bangkok bar channel as of \_\_\_\_\_," Bangkok, Thailand, \_\_\_\_\_, various scales.

These sheets appear to be issued on the last day of each month and sheets for April through October 1962 were examined. The bar channel is mapped at a scale of 1:50,000 from kilometer 1 to kilometer -18 and the channel depth is shown with divisions at 7, 8, 6.25, 8.50, and 10 meters. The channel is then expanded to a horizontal scale of 1:10,000 in order to show more detail. Accompanying sheets show a longitudinal section and cross sections at each kilometer with bottom lines shown for existing reporting period and one month previously.

H186-03-01-XO

AMS/ML  
5L-63-22.40  
36322-V

Thailand Port Authority, Marine Department, "Bangkok Bar Channel Cross Section as of \_\_\_\_\_," 1:200, Bangkok, Thailand, various dates.

The issues of this monthly report that were examined present channel conditions by 20 cross sections at 1-kilometer intervals and three longitudinal sections. Vertical scale is 1:200 and horizontal scale is 1:5000.

H187-03-01-XO

Thailand Port Authority, Marine Department, "Chao Phraya River cross sections."

SKE: Thailand Port Authority, Marine Department, "The sections of the quayside and basin at the port of Bangkok."

H188-03-01-XO Thailand Port Authority, Marine Department, "Plan of Chao Phraya River at the port of Bangkok showing the depths and contours at the quayside and basin area as of \_\_\_\_\_." 1:2500, Bangkok, Thailand, various dates.  
AMS/ML  
5L-63-22.40  
36322-V/2

The monthly issues, March-September 1962, were examined and found to contain the plan of the river and adjoining facilities from Klong Phra Kanong 2.5 kilometers west. Depths are contoured at 1-meter intervals for 6 to 12 meters and cross-sectional soundings are given for 100-meter intervals. The maximum average depth along this segment is about 9.6 meters.

H189-03-01-XO Thailand Port Authority, Marine Department, "The sections of the quayside and basin at the port of Bangkok, as of \_\_\_\_\_" 1:200 vert, 1:2500 and 1:5000 horiz, Bangkok, Thailand, various dates.  
AMS/ML  
5L-63-22.40  
36322-V/2

The monthly issues, March-September, were examined and found to contain sections of the river from kilometer 27.00 to kilometer 28.500 at 200- to 300-meter intervals. In addition, longitudinal sections are given at positions along the quay and at distances of 5, 10, 15, 20, and 30 meters.

H190-01-04-XO Thailand Royal Hydrographic Department, Catalogue of Charts and Publications of the Hydrographic Department. Bangkok, Thailand, 1956, 13 pp. maps.

This publication gives an index map of the charts and a tabular listing of 44 charts with title, language, scale, date of publication, date of last edition, size, and price included. Five publications are noted. This could prove to be useful in locating map coverage if coastal studies were to be done, as it appears to be the same as the U. S. Coast and Geodetic Charts.

H191-03-01-XO Thailand Royal Hydrographic Department, "Chao Phraya River, kilometer 2 to kilometer 6, cross section sounding every 100 meters (km. 4 to km. 6)." 1:5000, Bangkok, Thailand, October 17, 1955.  
AMS/ML  
5L-2-22.2  
36324-5

Cross sections are given every 250 meters between kilometer 2 and kilometer 4 and every 100 meters to kilometer 6. Kilometer 2 is approximately 13°35'30"N. Depth lines are for 2, 4, 5, 6, 8.5, 9, and 10 meters. In this part of the river the greatest depths vary from 9.2 to 11.2 meters and widths vary from 500 to 1100 meters.

H192-03-01-XO Thailand Royal Hydrographic Department, "Mac Nam Chao Phraya." 1:10,000, Bangkok, Thailand, March 1956.  
AMS/ML  
5L-2-22.2  
36324-10/2

This chart of the Chao Phraya River from Ayutthaya to the Chainat Dam shows depths varying between 0.6 and 6 meters along the line of navigation. Most depths are between 0.5 and 2 meters and widths vary from 40 to 250 meters.

H193-03-01-XO Thailand Royal Hydrographic Department, "Mac Nam Pasak." 1:10,000, Bangkok, Thailand, May 1956.  
AMS/ML  
5L-2-22.2  
36324-10

## Hydrologic Geometry, Maps

This is a chart of Mae Nam Pasak from kilometer 25 to kilometer 65 (Wat Keokesadaram is at kilometer 27 and kilometer 65 is southwest of the rail crossing of the Northern Line). Depths shown along the line of navigation vary from 2 to 5.5 meters, but most are between 3.5 and 5.0 meters. Widths are uniformly near 150 meters.

H194-03-02-X0      Thailand Royal Irrigation Department, "Bangkok and vicinity." No scale, Bangkok, Thailand, no date.  
AMS/ML  
SL-32-7.67  
36318-V

This map, having no title or legend, covers the geographic area of 12°30'N to 20°N and 98°45'E to 103°0'E. Primary information seems to be the location of powerlines originating at the Bhumiphol Dam and their destination, but irrigation projects, roads, railroads, towns, drainage, and province boundaries are included.

H195-03-02-X0      Thailand Royal Irrigation Department, "The greater Chao Phraya project." 1:3,500,000, Bangkok, Thailand, 1955.  
CIA/ML  
H503-1  
106,704

This reproduction of a color original shows the locations of 32 state, 99 people's, and 128 tank irrigation projects. State irrigation projects are divided into those completed before and after 1932 and those under construction; people's irrigation projects are divided into those completed and those under construction; and the tank irrigation projects are divided according to completed or under construction. Project name, province in which located, and irrigable area are given for each of the projects. Political boundaries, drainage, railroads, and towns are included as basic information.

H196-03-02-X0      Thailand Royal Irrigation Department, "Greater Chao Phraya project distribution system map showing canals and distributaries." 1:200,000, Bangkok, Thailand, December 20, 1973.  
AMS/ML  
SL-32-7.67  
36318-V

The primary purpose of this map is to show those reaches for which the canal design is complete, data for structure design available, and structure drawings complete. Not identified but apparently shown are various tracts of the project, completed and planned canals, drainage, and towns.

H197-03-02-X0      Thailand Royal Irrigation Department, "Greater Chao Phraya project distribution system map showing canals and distributaries structures." 1:200,000, Bangkok, Thailand, December 20, 1973.

SR: Ahlf, August L., Technical Record of the Design of the Greater Chao Phraya Project, Thailand. Unpublished, U. S. Bureau of Reclamation, Denver, Colo., August 1, 1974, 49 pp, illus, maps.

H198-03-02-X0      Thailand Royal Irrigation Department, Thuei Nam Nam irrigation control map showing canals on right and left bank, Kut Pong District, Loei Province." 1:100,000, map No. 20690, Bangkok, Thailand, 1974.  
AMS/ML  
SL-32-7.67  
36318-V

This map, printed in Thai with English summary and translated title and legend, is similar to the Department's Northeast Irrigation map, Muey Nam Nam project showing alignments of right bank and left bank main canals, Kut Pong District, Loei Province. It shows completed and proposed canals, irrigable area along both banks, and roads. Spot elevations are included and area is contoured with a 1-meter interval. Total irrigable area of the project is 5031 rai.

H199-03-01-X0

Thailand Royal Irrigation Department, "Irrigation map in the Central Plain of Siam." 1:400,000, map No. 200,000, Bangkok, Thailand, 1952.

AMS/ML

5L-32-7.67

36318-V

This map, reduced from an original scale of 1:200,000, is printed in Thai but has English legend and title. It shows minimum drought and upper limit of navigation during the dry season; irrigation canals, drainage canals, communication canals, embankments, and roads which are completed and under construction; railways; spot elevations; and district and province offices.

H200-03-01-X0

Thailand Royal Irrigation Department, "Irrigation map of the Central Plain of Thailand." 1:200,000, map No. 29358, Bangkok, Thailand, March 1954.

AMS/ML

5L-32-7.67

36318-V

This hand-colored map is printed in Thai but has translated title and legend and English numerals. It shows administrative, province, and project boundaries; dams and sluice gates; dikes, drainage canals, supply canals, and communication canals which are completed or under construction; high and low water depths of waterways; upper limit of dry-season navigation; length and width of locks; drainage; roads or highways completed, under construction, and planned; roads built on dikes of Irrigation Department which are completed or under construction; and railways. The area of each of the 15 projects within the Central Plain is given.

H201-03-02-X0

Thailand Royal Irrigation Department, "Irrigation map showing Chao Phraya barrage scheme and other projects in the plain of Central Siam." 1:1,150,000 (approx), map No. 200,000B, Thailand Ministry of Agriculture, Bangkok, Thailand, 1949.

SEE: United Nations Food and Agriculture Organization, National Committee, Thailand, Thailand and Her Agricultural Problems. Thailand Ministry of Agriculture, Bangkok, Thailand, March 1949, 116 pp, illus, maps.

H202-03-02-X0

Thailand Royal Irrigation Department, "Irrigation map showing Chao Phraya River projects and other projects in the Central Plain of Thailand." 1:1,150,000 (approx), map No. 31434, Thailand Ministry of Agriculture, 1957.

SEE: Thailand Ministry of Agriculture, Agriculture in Thailand, Bangkok, Thailand, 1957, 263 pp, illus, maps.

H203-03-02-XL

Thailand Royal Irrigation Department, "The Kamphang Petch irrigation project showing proposed distribution system and tentative canal alignments." 1:50,000, map No. 33395, Bangkok, Thailand, 1958.

AMS/ML

5L-32-7.67

36318-V

This hand-colored map covers the geographic area of 15°30'N to 17°30'N and 98°45'E to 100°30'E. Project boundaries, area of present paddy, proposed irrigation canals, state highways, railways, and province and district capitals are shown. The area is contoured at the 100-, 200-, 500-, and 1000-meter levels. The gross area of the project is 1,940,000 rai of which 1,455,000 rai are irrigable.

H204-03-02-X0

Thailand Royal Irrigation Department, "Mae Lao left bank irrigation project plan, Amphoe Muang, Changwat Chiang Rai." 1:25,000, Bangkok, Thailand, April 26, 1963.

AMS/ML

5L-32-7.67

36318-V



Hydrologic Geometry, Maps

This map is printed in Thai but has the title and legend translated and covers a small area from Chiang Mai to 19°45'N. It shows plants receiving forest water, draining forest water, supplying water to rice fields, and supplying water to branch channels; siphons; culverts; falling water-declining gutters; bridges; and channels dug up to 1962 and to be dug in 1963.

H205-03-02-X0                      Thailand Royal Irrigation Department, "Mae Lao right bank irrigation project plan, Amphoe Phan, Changwat Chiang Rai." 1:25,000, Bangkok, Thailand, April 26, 1963.  
AMS/ML  
5L-32-7.67  
36318-V

This map is printed in Thai but has translated title and legend and covers a small area from 19°15'N to 19°45'N just south of Chiang Rai in the proximity of 99°45'E. It shows plants receiving forest water, draining forest water, supplying water to rice fields, and supplying water to branch channels; siphons; culverts; falling water-declining gutters; bridges; channels dug in 1961, to be dug in 1962, and to be dug in 1963; and plants constructed in 1960, 1961, and to be constructed in 1962.

H206-03-02-X0                      Thailand Royal Irrigation Department, "Map No. 100,000 showing state irrigation projects completed, under construction, and to be carried out within 5 to 7 years." 1:2,500,000, Bangkok, Thailand, 195\_.  
CIA/ML  
H503-1  
90858

This map divides the country into northern, northeastern, central, and southern portions and shows location and name of 13 completed projects, 16 projects under construction, and 17 projects to be carried out. State railways, larger towns, and drainage are included.

H207-03-02-X0                      Thailand Royal Irrigation Department, "Map of Bang Plueng and Tahae project showing people's irrigation scheme." 1:50,000, map No. 34305, Bangkok, Thailand, 1958.  
AMS/ML  
5L-32-7.67  
36318-V

This hand-colored map is printed in Thai but has English title and translated legend. It shows district and province capitals, regulators, navigation locks, railways, state highways, and embankments completed and under construction. The Bang Plueng project is south of Prachinburi, on the left bank of the Me Nam Prachin, and covers 474,000 rai. The Tahae project is east of Prachinburi, on the right bank of the same river and covers 60,000 rai.

H208-03-01-X0                      Thailand Royal Irrigation Department, "Map of Bankai project showing people's irrigation scheme." 1:40,000, map No. 34268, Bangkok, Thailand, 1958.  
AMS/ML  
5L-32-7.67  
36318-V

This hand-colored map covers the area along the Khlong Yai from north of Ban Khai to north of Rayong or in the general vicinity of 12°45'N, 101°16'E. It shows pipe regulators, regulators, diversion weirs, siphons, bridges, irrigation and drainage canals completed and under construction, and state highways. Drainage, villages, and district and province capitals are included. A table gives canal lengths, area served, irrigable area, and discharge.

H209-03-01-X0                      Thailand Royal Irrigation Department, "Map of central plain of Thailand showing all the year round navigable waterways and the location of navigation locks." 1:400,000, Bangkok, Thailand, October 1957.  
AMS/ML  
5L-2-22.00  
36318-400

This map locates locks, regulators, navigable streams and canals (for year-round and flood seasons), highways, and railways. The shallowest part of the waterways are indicated in meters of water.

H210-03-02-XL Thailand Royal Irrigation Department, "Map of irrigation channels on right and left banks of Mae Lao, Mae Lao flood control." 1:100,000, map No. AMS/ML 5L-32-7.67 28569, Bangkok, Thailand, 1954. 36318-V

This hand-colored map is printed in Thai but has translated title and legend and covers a narrow strip from Chiang Rai to 19°15'N. It shows paddy fields, villages, forests, mountains, roads, and completed and planned canals. The topography is represented by hachures.

H211-03-02-XL Thailand Royal Irrigation Department, "Map of Mae Wang irrigation area, Lampang Province." 1:50,000, map No. 20814, Bangkok, Thailand, 1954. AMS/ML 5L-32-7.67 36318-V

This hand-colored map is similar to the Department's 1949 map, "Map of Mae Wang irrigation project." It is printed in Thai but has translated title and legend. The map shows project and district boundaries, fields, fields and forests, forests, temples, highways and villages. Limited drainage is included and the topography is represented by hachures. The project occupies a total area of 90,741 rais of which 74,348 rais are irrigable.

H212-03-02-XL Thailand Royal Irrigation Department, "Map of Mae Fack irrigation project, Chiangmai Province." 1:100,000, map No. 16342, Bangkok, Thailand, 1949. AMS/ML 5L-32-7.67 36318-V

This hand-colored map is printed in Thai with English title and legend and it covers irrigation works along the Mae Nam Ping north and south of Chiang Mai. The map shows temples, villages, cultivated and uncultivated land, district and province capitals, state highways and railways, completed and proposed supply canals, and headworks. Drainage and topography by hachures are shown. The total area of the project is 74,236 rais of which 66,152 are irrigable.

H213-03-02-XL Thailand Royal Irrigation Department, "Map of Mae Fack irrigation project, Chiang Mai Province." 1:100,000, Bangkok, Thailand, 1957. CIA/ML H503-1 117,003

This map, similar to the 1949 edition, shows district and province boundaries, regulators, pipe regulators, siphons, flumes, irrigation canals, railways, and highways. The total and irrigable area of the project is given along with drainage and topography by hachures.

H214-03-02-XL Thailand Royal Irrigation Department, "Map of Mae Fack irrigation project, Chiangmai Province." 1:100,000, map No. 16342, Bangkok, Thailand, 1958. AMS/ML 5L-32-7.67 36318-V

This is a later edition of the Department's 1949 map. It is printed in Thai with English legend and title. The map shows province and district boundaries, regulators, pipe regulators, siphons, flumes or aqueducts, railways, highways, irrigation canals, and headworks. Cultivated and uncultivated lands appear to be outlined but are not identified and drainage and topography by hachures are included. The project now has a total area of 74,200 rais of which 70,000 rais are irrigable.

H215-03-02-XO Thailand Royal Irrigation Department, "Map of Mae Lao irrigation project, Chiang Rai Province." 1:100,000, Bangkok, Thailand, 1957. AMS/ML 5L-32-7.67 36318-V

## Hydrologic Geometry, Maps

This map is similar to the Department's 1954 map entitled "Map of irrigation channels on right and left banks of Mae Lao, Mae Lao flood control, Chiang Rai Province." It shows project boundary, irrigation canals completed and under construction, and elevations along the main canal. The project area is 222,900 rais of which 166,400 rais are irrigable.

H216-03-02-XO                      Thailand Royal Irrigation Department, "Map of Me Lao irrigation project, Chiang Rai Province." 1:100,000, map No. 28569, Bangkok, Thailand, 1958.  
AMS/ML  
5L-32-7.67  
36318-V

This map is similar to the Department's 1957 edition. It is printed in Thai with English title and legend and shows district capitals, regulators, siphons, inlets, drainage culvert or siphons under canals, irrigation canals completed and under construction, state highways, and headworks. The topography is represented by hachures.

H217-03-02-XO                      Thailand Royal Irrigation Department, "Map of Me' Ping irrigation project, Chiangmai and Lampoon Provinces." 1:25,000, map No. 25085, Bangkok, Thailand, 1949.  
AMS/ML  
5L-32-7.67  
36318-V

This hand-colored map is printed in Thai but the title and legend have been translated into English. It shows completed and proposed supply canals, cultivated and uncultivated lands, district and province capitals, project and province boundaries, state highways and railways, temples, villages, and embankments. Four subprojects are outlined and the area of each is given. Natural drainage is included. The total area of the project is 50,135 rais of which 38,822 rais are irrigable.

H218-03-02-XL                      Thailand Royal Irrigation Department, "Map of Me Ping irrigation showing irrigation channels for Mae Faek, Mae Taeng, and Mae Ping Kao, Chiang Mai Provinces." 1:100,000, map No. 16342, Bangkok, Thailand, 1954.  
AMS/ML  
5L-32-7.67  
36318-V

This hand-colored map is similar to the Department's "Map of Me Fack irrigation project." It is printed in Thai but the title and legend have been translated into English. The map shows temples, villages, fields, fields and forests, forests, district and province capitals, completed and planned irrigation canals, project boundary, highways, and railways. Some drainage and topography by hachures are included as basic information. The total area of the project is 74,236 rais of which 66,158 rais are irrigable.

H219-03-02-XO                      Thailand Royal Irrigation Department, "Map of Me Ping Kao irrigation project, Chiang Mai - Lampoon Province." 1:25,000, map No. 25085, Bangkok, Thailand, 1957.  
AMS/ML  
5L-32-7.67  
36318-V

This map is similar to the Department's map entitled "Map of Me Ping irrigation project, Chiangmai and Lampoon Provinces." It is printed in Thai with English title and legend. The map shows province and district capitals, regulators, pipe regulators, diversion weirs, earth dams, cultivated and uncultivated lands, irrigation canals, state highways and railways, project boundary, and villages. The total project area is 50,300 rais of which 39,000 rais are irrigable.

H220-03-02-XL                      Thailand Royal Irrigation Department, "Map of Me Wang irrigation project, Lampang Province." 1:50,000, map No. 20814, Bangkok, Thailand, 1949.  
AMS/ML  
5L-32-7.67  
36318-V

This hand-colored map is printed in Thai with English title and legend. It shows supply canals, cultivated and uncultivated lands, district boundaries, temples, villages, and state

highways. Drainage and topography by hachures are shown as basic information. The total area of the project is 90,741 rais of which 74,348 rais are irrigable.

H221-03-02-XL      Thailand Royal Irrigation Department, "Map of Me Wang irrigation project, Lampang Province." 1:50,000, map No. 20814, Bangkok, Thailand, 1957.  
CIA/ML  
H503-1  
117,000

This map is similar to the Department's 1949 edition. It is printed in Thai with English title and legend. The map shows irrigation canals, regulators, pipe regulators, siphons, flumes or aqueducts, railway culverts, and state highways and railways. Cultivated and uncultivated lands appear to be outlined but are not defined. Drainage and topography by hachures are included. The project has a total area of 90,741 rais of which 74,000 rais are irrigable.

H222-03-02-XO      Thailand Royal Irrigation Department, "Map of Me Wang irrigation project, Lampang Province." 1:50,000 map No. 20814, Bangkok, Thailand, 1958.  
AMS/ML  
5L-32-7.67  
36318-V

This map is identical to the 1957 edition.

H223-03-02-XO      Thailand Royal Irrigation Department, "Map of Me Yom irrigation project, left bank, Prae Province." 1:100,000, map No. 29451, Bangkok, Thailand, 1957.  
AMS/ML  
5L-32-7.67  
36318-V

This map is printed in Thai with an English title and legend and covers an area along the Me Yom in the vicinity of 100°10'E from 18°N to 18°30'N. It shows province and district capitals, diversion weirs, regulators, siphons, irrigation canals completed and under construction, and state highways and railways. Map coverage at a larger scale seems to be indicated but is not identified. The total area of the project is 163,893 rais of which 147,883 rais are irrigable.

H224-03-02-XL      Thailand Royal Irrigation Department, "Map of Pa Tak irrigation project, Chiang Mai Province." 1:10,000, map No. 28699, Bangkok, Thailand, 1959.  
AMS/ML  
5L-32-7.67  
36318-V

This hand-colored map is printed in Thai with English title and legend. It shows irrigation canals and highways in the project which covers 22,085 rais and lie northeast of the San Kam Pang District. Drainage and spot elevations are included and the area is contoured with a 1-meter interval.

H225-03-01-XL      Thailand Royal Irrigation Department, "Map of Prasithi Cholakarn project showing people's irrigation scheme. 1:10,000, map No. 34720, Bangkok, Thailand, 1958.  
AMS/ML  
5L-32-7.67  
36318-V

This hand-colored map is printed in Thai with English title and legend and covers 21,292 rais west of the Gulf of Thailand. It shows farm turnouts, drops, headpipe regulators, tailpipe regulators, irrigation canals (completed, under construction, and planned), project boundary, and state highways. The area is contoured with a 0.5-meter interval. A table lists the length, total and irrigable area, and discharge of each canal. The project has an irrigable area of 19,164 rais.

Hydrologic Geometry, Maps

H226-03-01-X0                      Thailand Royal Irrigation Department, "Map of Ratta Phumi project showing people's irrigation scheme." 1:50,000, map No. 34267, Bangkok, Thailand, 1958.  
AMS/ML  
5L-32-7.67  
36318-V

This hand-colored map covers a small area southwest of Thule Luang in Peninsula Thailand. The diversion weir, irrigation canals completed and under construction, and state highways are shown. Eleven canals are numbered and the length, total and irrigable area, and discharge are given for each. The total area of the project is 38,685 rais and the irrigable area is 29,015 rais.

H227-03-02-X0                      Thailand Royal Irrigation Department, "Map of Siam showing irrigation projects completed, under construction, and proposed." 1:5,400,000 (approx), map No. 100,000, Thailand Ministry of Agriculture, Bangkok, Thailand, 1949.  
CIA/ML  
503-33  
61497  
  
SEE: United Nations Food and Agriculture Organization, National Committee, Thailand, Thailand and Her Agricultural Problems. Thailand Ministry of Agriculture, Bangkok, Thailand, March 1949, 116 pp, illus, maps.

H228-03-01-X0                      Thailand Royal Irrigation Department, "Map of Thailand showing navigable reach of main river." 1:2,000,000, Bangkok, Thailand, 1957.  
AMS/ML  
5L-1-22.20  
36318-2.000

This ozalid map shows drainage, streams navigable year round and only in flood season, navigation locks, and district and province capitals. It has 1-deg coordinates.

H229-03-02-X0                      Thailand Royal Irrigation Department, "Map of Thailand showing state irrigation projects completed, under construction, and to be carried out in the near future." 1:5,000,000 (approx), map No. 31418, Thailand Ministry of Agriculture, Bangkok, Thailand, 1957.  
CIA/ML  
H503-1  
110558  
  
SEE: Thailand Ministry of Agriculture, Agriculture in Thailand, Bangkok, Thailand, 1957, 263 pp, illus, map.

H230-03-02-X0                      Thailand Royal Irrigation Department, "Map of Thailand showing various irrigation projects." 1:1,000,000, map No. 28310A, Bangkok, Thailand, January 1958.  
AMS/ML  
5L-1-7.67  
36318-1.000

This map gives the location and irrigable area of 144 people's irrigation projects, location and area of unnumbered state irrigation projects, and locations of unnumbered tank irrigation projects. Each project is classified as either completed, under construction, or proposed.

H231-03-01-X0                      Thailand Royal Irrigation Department, "Map showing Chao Phraya project divided into tract." 1:200,000, Bangkok, Thailand, January 3, 1957.  
CIA/ML  
H503-1  
117008

The project is divided into 12 tracts. The embankments, state highways, and canals which are completed, under construction, and proposed; embankments used as state highways; drainage

canals; communication canals; irrigation works; upper limit of navigation; maximum and minimum depths; political boundaries; drainage; and towns are shown for each tract.

H232-03-02-XO Thailand Royal Irrigation Department, "Map showing Chao Phraya project divided into tract." 1:240,000, map No. 200,000, Bangkok, Thailand, 1949.  
AMS/ML  
5L-32-7.67  
36318-V

This map is printed in Thai but has translated title and legend. It shows irrigation canals completed and proposed, drainage canals, communication canals, embankments, state highways completed and proposed, Royal Irrigation Department telephone lines, Chao Phraya headworks, railway and roadway bridges, regulators, syphons, navigation locks, project boundaries, inlets, and outlets. Drainage and towns are included. The map has no coordinates.

H233-03-02-XO Thailand Royal Irrigation Department, "Map showing depth of flooding on the plain of Central Siam." 1:1,150,000 (approx), map No. 200,000A, Thailand Ministry of Agriculture, Bangkok, Thailand, 1949.  
CIA/ML  
H503-22  
110559

SEE: United Nations Food and Agricultural Organization, National Committee, Thailand, Thailand and Her Agricultural Problems. Thailand Ministry of Agriculture, Bangkok, Thailand, March 1949, 116 pp, illus, maps.

H234-03-02-XO Thailand Royal Irrigation Department, "Map showing depth of flooding on the plain of Central Thailand." 1:1,150,000 (approx), map No. 200,000A, Thailand Ministry of Agriculture, Bangkok, Thailand, 1957.

SEE: Thailand Ministry of Agriculture, Agriculture in Thailand, Bangkok, Thailand, 1957, 263 pp, illus, maps.

H235-03-02-XO Thailand Royal Irrigation Department, "Map showing irrigation of Thailand North-eastern projects." 1:1,000,000, Bangkok, Thailand, April 1958.  
AMS/ML  
5L-32-7.67  
36318-V/1.000

The map provides the location, area, and status of 187 irrigation projects.

H236-03-01-XO Thailand Royal Irrigation Department, "Map showing irrigation projects in the Central Plain of Thailand." 1:200,000, Bangkok, Thailand, 1957.  
CIA/ML  
H503-1  
117004

This hand-colored map covers the geographic area of 12°30'N to 13°30'N, 99°40'E to 100°10'E, 13°20'N to 16°N, and 99°40'E to 101°20'E. It shows locks; regulators; dams; irrigation project boundaries; railways; highways, embankments, and irrigation canals which are completed, under construction, and proposed; communication canals which are completed and under construction; drainage canals; embankments completed and under construction which are used as state highways; triangulation stations with elevations; upper limit of navigation during dry season, minimum depths during dry season, and maximum depths in wet season for the waterways; and width and length of navigation lock gates and basins. The projects are tabulated giving irrigable area, starting date, and completion date. Drainage and towns are shown.

Hydrologic Geometry, Maps

H237-03-01-XO                      Thailand Royal Irrigation Department, "Map showing irrigation projects in the Central Plain of Thailand." 1:200,000, map No. 29358, Bangkok, Thailand, 1959.  
AMS/ML  
5L-32-7.67  
36318-V

This hand-colored map is printed in Thai with an English title and legend. It shows drainage; province, district, and subdistrict capitals; pipe, wood, and concrete regulators; barrages; earth dams; diversion weirs; siphons; flumes or aqueducts; roadway culverts; navigation lock and regulators; navigation locks; barrages and navigation locks; Chao Phraya dam drop; railways; irrigation project boundaries; sea level in normal and dry season; state highways, embankments, and irrigation canals which are completed, under construction, and proposed; communication canals completed and under construction; drainage canals; embankments completed and under construction which are used as state highways; triangulation stations with elevations; upper limit of navigation during dry season, minimum depths during dry season, and maximum depths in wet season for the waterways; and width and length of navigation lock gate and basin. Various subdivisions are tabulated giving area, starting date, and completion date.

H238-03-01-XO                      Thailand Royal Irrigation Department, "Map showing proposed Lampra Plerng hydro-electric and irrigation project." 1:20,000, map No. 31601, Bangkok, Thailand, 1958.  
AMS/ML  
5L-32-7.67  
36318-V

This hand-colored map covers the geographic area of 14°20'N to 15°N and 101°20'E to 102°20'E. It shows irrigable area for paddy and sugar cane or upland crops; state highways completed; proposed state highways, Royal Irrigation Department roadways, irrigation canals, and transmission lines; precipitation and gaging stations; district capitals; and villages. The three irrigation tracts along with drainage and reservoir area are delineated. Irrigable area of paddy and upland crops and discharge for the Wang Ta Kien, Paklong Chai, and Choke Chai tracts are given in tabular form.

H239-03-02-XO                      Thailand Royal Irrigation Department, "Man River project, Chao Phraya project." No scale, Bangkok, Thailand, n.d.  
AMS/ML  
5L-32-7.67  
36318-V

This map is at an approximate scale of 1:750,000, and covers the Central Plain of Thailand. It shows drainage, major canals, roads, railroads, towns, and the electrical transmission system entering from the north.

H240-03-02-XL                      Thailand Royal Irrigation Department, "North-eastern drainage and flood control map Me Khong Valley project, Mongkai Province." 1:50,000, map No. 20882, Bangkok, Thailand, 1958.  
AMS/ML  
5L-32-7.67  
36318-V

This map is printed in Thai with an English title and legend. It is very similar to the Department's "North-eastern irrigation map Me Khong Valley project" and shows pipe regulators; province capitals; villages; cultivated and uncultivated lands; state, province, and project boundaries; state highways; state highways used as an embankment; and outlets. The area is contoured with a 1-meter interval and has many spot elevations. The project has a total area of 108,400 rai of which 64,000 are irrigable.

H241-03-02-XL                      Thailand Royal Irrigation Department, "North-eastern drainage and flood control map Tung Seng Badal project, Rio-St Province." 1:50,000, map No. 20666, Bangkok, Thailand, 1958.  
AMS/ML  
5L-32-7.67  
36318-V

This map is printed in Thai but has English legend and numerals. It is very similar to the Department's "North-eastern irrigation map Tung Seng Badal project" and shows province capital, inlets, outlets, regulators, state highways, embankments completed and under construction, and

project boundary. It appears that cultivated and uncultivated areas are outlined but these are not keyed. The area is contoured with a 1-meter interval with numerous spot elevations.

H242-03-02-XL      Thailand Royal Irrigation Department, "North-eastern irrigation map,  
AMS/ML      Bantoom Banteew project, Maha Sarakram Province." 1:20,000, map No.  
5L-32-7.67      26826, Bangkok, Thailand, 1949.  
36318-V

This hand-colored map is printed in Thai with English title, legend, and numerals. It shows state highways, cultivated and uncultivated lands, embankments, and locations of pipes under embankments. The area is contoured with a 1-meter interval with spot elevations. Natural drainage is shown for the total area of 29,000 rais.

H243-03-02-XL      Thailand Royal Irrigation Department, "North-eastern irrigation map,  
AMS/ML      Huey Luang project, Udorn Province." 1:50,000, map No. 21311A, Bangkok,  
5L-32-7.67      Thailand, 1949.  
36318-V

This hand-colored map is printed in Thai with English title and legend. It shows cultivated and uncultivated lands, irrigation canals completed and proposed, state highways, and villages in the vicinity of Udorn. Drainage, spot elevations, and 1-meter contours are shown. Total project area is 51,019 rais of which 49,777 rais are irrigable.

H244-03-01-XO      Thailand Royal Irrigation Department, "North-eastern irrigation map,  
AMS/ML      Huey Luang project, Udorn Province." 1:50,000, map No. 34263, Bangkok,  
5L-32-7.67      Thailand, 1956.  
36318-V

This is a revised English edition of the 1949 map. It covers a total area of 53,936 rais of which 40,453 rais are irrigable in the vicinity of Udorn. It shows railways, highways, irrigation canals, regulators, barrages, flumes or aqueducts, roadway culverts, chutes, pipe regulators, and drops. The canals are numbered and a table gives the length, total area, irrigable area, and discharge of each.

H245-03-02-XL      Thailand Royal Irrigation Department, "North-eastern irrigation map,  
AMS/ML      Huey Nam Marn project showing alignments of right bank and left bank  
5L-32-7.67      main canals, Kood Pong District, Loei Province." 1:10,000, map No.  
36318-V      20692, Bangkok, Thailand, 1949.

This hand-colored map is printed in Thai with English numerals and legend. The project covers 5431 rais of which 5031 are irrigable and is divided into 12 tracts. Irrigable area is given for each tract and state highways and irrigation canals are shown. The area is contoured with a 1-meter interval with numerous spot elevations.

H246-03-02-XL      Thailand Royal Irrigation Department, "North-eastern irrigation map,  
AMS/ML      Huey Sanong project showing alignments of left bank and right bank  
5L-32-7.67      canals, Surin Province." 1:20,000, map No. 20664, Bangkok, Thailand,  
36318-V      1949.

This hand-colored map is printed in Thai with English title, legend, and numerals. It shows nonirrigable land, irrigation canals completed and proposed, Chak boundaries, and pipes. The area is contoured with a 1-meter interval with numerous spot elevations. The project is divided into tracts and the area of each is given.



# Hydrologic Geometry, Maps

H247-03-02-XL Thailand Royal Irrigation Department, "Northeastern irrigation map, Lam Ta Kong project, Moon River, Asdang, Khongrah Sections, Nakorn Rajasima Province." 1:50,000, map No. 20676, Bangkok, Thailand, 1949.  
AMS/ML  
5L-32-7.67  
36318-V

This hand-colored map is printed in Thai with English title and legend. It covers 100,000 irrigable rai near Khorat and shows cultivated and uncultivated land, irrigation canals completed and proposed, state highways, and villages. The area is contoured with a 1-meter interval with numerous spot elevations.

H248-03-01-XO Thailand Royal Irrigation Department, "North-eastern irrigation map, Lam Ta Kong project, Nakorn Rajasima Province." 1:50,000, Bangkok, Thailand, 1958.  
CIA/ML  
H503-1  
110946

This hand-colored map covers an area 4 by 30 kilometers lying just north of Khorat. It shows project limits, irrigation works, canals, highways, railways, and villages. Length, total area, irrigable area, and discharge are tabulated for each canal.

H249-03-02-XL Thailand Royal Irrigation Department, "North-eastern irrigation map, Me Khong Valley project, Nongkai Province." 1:50,000, map No. 20882, Bangkok, Thailand, 1950.  
AMS/ML  
5L-32-7.67  
36318-V

This hand-colored map is printed in Thai with English title, legend, and numerals. It covers 63,320 irrigable rai just south of the Mekong from 102°35'E to 103°E. It shows cultivated and uncultivated lands, embankments, and state highways. Numerous spot elevations are included and the area is contoured with a 1-meter interval.

H250-03-02-XL Thailand Royal Irrigation Department, "North-eastern irrigation map, Tung Samrit project, Pinal District, Nakorn Rajasima Province." 1:50,000, map No. 21180, Bangkok, Thailand, 1949.  
AMS/ML  
5L-32-7.67  
36318-V

This hand-colored map is printed in Thai but does have some English numerals giving spot elevations. The total area of 136,300 rai, of which 109,040 rai are irrigable, is contoured with a 1-meter interval. A main canal extends northeast from the Moon Barrage which is slightly northeast of Pinal and it feeds eight distributaries. Major drainage is included and it appears that cultivated and uncultivated lands are outlined but they are not keyed.

H251-03-02-XO Thailand Royal Irrigation Department, "Northeastern irrigation map, Tung Samrit project, Pinal District, Nakorn Rajasima Province." 1:50,000, Bangkok, Thailand, 1949.  
CIA/ML  
H503-1  
110946

The project is divided into three completed and two proposed parts and the area of each is given. The map shows completed and proposed embankments, irrigation canals, and drainage canals, barrages, regulators, earth dams, and pipe regulators. Several spot elevations in meters are included.

H252-03-02-XO Thailand Royal Irrigation Department, "North-eastern irrigation map, Tung Samrit project, Pinal District, Nakorn Rajasima Province." 1:50,000, map No. 21180, Bangkok, Thailand, 1949.  
AMS/ML  
5L-32-7.67  
36318-V

This is a revision of the 1949 edition, and is printed in Thai with English numerals and legend. It shows irrigation canals, drainage canals completed and proposed, embankments, earth

dams, regulators, pipe regulators, farm turnouts, siphons, and district capital. A table gives the irrigable area of the five completed and proposed projects which total 187,600 rai.

H253-03-02-XL Thailand Royal Irrigation Department, "North-eastern irrigation map, Tung Seng Badal project, Roi-Et Province." 1:50,000, map No. 20666, Bangkok, Thailand, 1949.  
AMS/ML  
5L-32-7.67  
36318-V

This hand-colored map is printed in Thai with English numerals and legend and covers area northeast of Roi-Et. It shows embankments, cultivated and uncultivated lands, drainage, and state highways. The area is contoured with a 1-meter interval with numerous spot elevations. The project has a total area of 191,007 rai of which 179,941 rai are irrigable.

H254-03-02-X0 Thailand Royal Irrigation Department, "North-eastern irrigation project." 1:500,000, map No. 20527, Bangkok, Thailand, 1951.  
AMS/ML  
5L-32-7.67  
36318-V

This map shows the location of five completed, 12 under construction, and four proposed people's, state or tank irrigation projects. Gravity irrigation projects, flood protection projects, drainage, state highways completed and proposed, railways, province boundaries and names, cultivated areas, and towns are also shown.

H255-03-02-X0 Thailand Royal Irrigation Department, "North-Eastern project, location of tanks and various irrigation projects." 1:500,000, Bangkok, Thailand, n.d.  
SEE: Joint U. S. Military Advisory Group, Information and Statistics of Highways, Railways, and Irrigation Projects. Unpublished, Bangkok, Thailand, December 14, 1954, various sections and pages.

H256-03-02-X0 Thailand Royal Irrigation Department, "Northeastern Project showing the location of tanks and various irrigation projects." 1:500,000, Bangkok, Thailand, October 23, 1954.  
CIA/ML  
H503-1  
116945

This map shows the location, area, and status of 12 state projects, 9 people's projects, and 121 tank projects. Roads and drainage are also shown.

H257-03-02-XL Thailand Royal Irrigation Department, "North-eastern project showing the location of tanks and various irrigation projects." 1:500,000, map No. 30610A, Bangkok, Thailand, 1954.  
AMS/ML  
5L-32-7.67  
36318-V

This map shows state, people's, and tank irrigation projects which are proposed, under construction, and completed; embankments completed and under construction which are used for state highways; state highways completed and proposed; state, province, and watershed boundaries; railroads; province and district capitals; regulators; and subdistricts. A table gives province location, area, starting date, and completion date when applicable for 12 state, 9 people's, and 149 tank irrigation projects. Drainage and 200-, 300-, and 500-meter contours are shown.

H258-03-02-XL Thailand Royal Irrigation Department, "Reference map, irrigation control, Lam Takhong, Nakhon Ratchasima Province." 1:50,000, map No. 20616, Bangkok, Thailand, 1953.  
AMS/ML  
5L-32-7.67  
36318-V

## Hydrologic Geometry, Maps

This map, printed in Thai with translated title and legend, is very similar to the Department's "North-eastern irrigation map, Lam Ta Kong project, Moon River, Asdang, Khongrah Sections, Nakorn Rajasima province." It shows completed and planned canals and roads or highways. Cultivated and uncultivated lands seem to be delineated but are not defined. The area is contoured with a 1-meter interval with numerous spot elevations. A table gives the irrigable area of the project's nine divisions which total 100,000 rai.

H259-03-02-XL      Thailand Royal Irrigation Department, "Reference map Khong (Mekong) flood control, Nong Khai Province." 1:50,000, map No. 20882, Bangkok, Thailand, 1954.  
AMS/ML  
5L-32-7.67  
36318-V

This hand-colored map, printed in Thai with English numerals and translated title and legend, is very similar to the Department's "Northeastern irrigation map, Me Kong Valley project, Nongkhai Province." It shows dikes, fields, forest, and villages. The area is contoured with a 1-meter interval with spot elevations.

H260-03-02-XL      Thailand Royal Irrigation Department, "Reference map Thung Sam Rit irrigation control, Pimai District, Nakhon Ratchasima Province."  
AMS/ML  
5L-32-7.67      1:50,000, map No. 21190, Bangkok, Thailand, 1954.  
36318-V

This map, printed in Thai with English numerals and translated title, is similar to the Department's "North-eastern irrigation map, Tung Samrith project, Pimai District, Nakorn Rajasima Province." The map has no legend but shows the main canal heading at the Moon Barrage, eight distributaries, and many supply canals. The area is contoured with a 1-meter interval with numerous spot elevations. The project is divided into tracts and the total and irrigable area of each is given; these tracts total 135,300 rai and 109,080 rai, respectively.

H261-03-02-XL      Thailand Royal Irrigation Department, "Reference map, Tung Saeng Badan control, Roi-Et Province." 1:50,000, Bangkok, Thailand, 1954.  
AMS/ML  
5L-32-7.67  
36318-V

This hand-colored map, printed in Thai with English numerals and translated legend, is similar to the Department's "North-eastern irrigation map, Tung Seng Badan project, Roi-Et Province." It shows dikes, roads, paddy fields, forest, and drainage. The area is contoured with a 1-meter interval with numerous spot elevations, noted to be 65.818 meters too high according to mean sea level.

H262-03-02-XL      Thailand Royal Irrigation Department, "Reservoir construction in Northeast region and chart showing location of reservoirs." 1:500,000, Bangkok, Thailand, 1953.  
AMS/ML  
5L-32-7.67  
36316-V

This photocopy is of a map printed in Thai with a translated title and legend. It shows reservoirs completed, under construction and planned. Drainage, roads, towns, and topography by hachures are included.

H263-03-02-XO      Thailand Royal Irrigation Department, "Thailand: reservoirs completed or under construction." 1:500,000, Bangkok, Thailand, June 1954.  
CIA/ML  
H503-34  
89896

This blueprint of Northeast Thailand is printed in Thai and shows drainage, roads, railways, and towns in addition to the reservoirs.

H264-03-02-X0

Thailand Soil Survey Division, "Situation map of the Khao Tao area." 1:10,000, Thailand Ministry of National Development, Bangkok, Thailand, January 1964.

SEE: Soil Survey Division, "Note on the soil survey of the Khao Tao area." Soil Survey Reports of the Land Development Department, No. 17, Thailand Ministry of National Development, Bangkok, Thailand, January 1964 (provisional edition), 11 pp, illus, maps.

H265-03-02-X0

Thongchuta, Tanit; Nonthabund, Somnug; and Moormann, F. R.; "Land classification map of the Nam Phong agricultural centre site." 1:19,000  $\pm$  250, Thailand Ministry of Agriculture, Bangkok, Thailand, December 1962.

SEE: Thongchuta, Tanit; Nonthabund, Somnug; and Moormann, F. R.; "Report on the soil survey of the site of the proposed agriculture centre near Satani Nam Phong (Khon Kaen Province)." Miscellaneous Soil Reports of the Department of Agriculture, Department of Rice, and the Royal Irrigation Department, No. 10, Thailand Ministry of Agriculture, Bangkok, Thailand, December 1962, 17 pp, illus, maps.

H266-03-01-X0

United Nations, "Central Siam showing inland waterways." 1:400,000, n.d.

AMS/ML  
5L-2-22.00  
220-400

This map is similar to the Thailand Royal Irrigation Department's map "Map of Central Plain of Thailand showing all the year round navigable waterways and the location of navigation locks." It shows navigable waterways, minimum drought in meters during the dry season, and the upper limit of navigation in the dry season. This upper limit is where the drought becomes less than 1 meter.

H267-03-02-X0

United Nations, "Location of hydrologic and rainfall stations." 1:4,580,000, Bangkok, Thailand, 1958.

SEE: United Nations Survey Mission, Lower Mekong River Basin, Program of Studies and Investigations for Comprehensive Development, Lower Mekong River Basin. TAA/AFE/3, January 23, 1958, Bangkok, Thailand, 42 pp, maps.

H268-03-02-X0

United Nations Food and Agriculture Organization, "Depth of flooding on Bangkok Plain." 1:1,375,000, FAO Chart No. 205, Washington, D. C., 1948.

SEE: United Nations Food and Agriculture Organization, Report of the FAO Mission for Siam. Washington D. C., September 1948, 125 pp, illus, maps, in the General Section of this bibliography.

H269-03-02-XV

United Nations Food and Agriculture Organization "Map of Siam; vegetation types and irrigation projects." 1:7,675,000, FAO Chart No. 203, Washington, D. C., September 1948.

SEE: United Nations Food and Agriculture Organization, Report of the FAO Mission for Siam. Washington, D. C., September 1948, 125 pp, illus, maps, in the General Section of this bibliography.

Hydrologic Geometry, Maps

- H270-03-02-X0 U. S. Army Quartermaster General, Research and Development Division,  
"River barriers." 1:14,400,000, Natick Mass., August 1953.  
SEE: U. S. Army Quartermaster General, Research and Development Division,  
Environment of Southeast Asia. Environment Protection Division  
Report No. 219, Natick, Mass., August 1953, 45 pp, illus, maps.
- H271-03-02-X0 U. S. Bureau of Reclamation, "Ping River basin above Tak." 1:1,815,000,  
Denver, Colo., January 22, 1954.  
SEE: U. S. Bureau of Reclamation, Report on Yanhee Project, Thailand for  
Power, Irrigation, Flood Control & Navigation. Prepared for the  
Royal Irrigation Department of Thailand, Denver, Colo., December  
1955, 2 volumes, illus, maps.
- H272-03-02-X0 U. S. Department of State, Office of Intelligence, "Lower Mekong River  
basin." 1:7,500,000, 1957.  
CIA/ML  
H501-22  
115655

This map shows national capitals, international and basin boundaries, and areas subject to inundation. Larger towns and major drainage are also included.

- H273-03-01-X0 U. S. Geological Survey, Military Geology Branch, Hawaii, "Water resources  
Southeast Asia." 1:2,500,000, Washington, D. C., April 1960.  
AMS/ML  
5L-2-7.68  
90116-2.500

The area covered falls between 8°N and 20°N in Thailand and Indochina. Six classes of groundwater resource are shown by color overprint on the AMS series 12068 map of continental Southeast Asia: (1) large quantities from shallow wells most of the year and from deep wells all of the year, (2) moderate to large quantities from shallow wells in terraces and meager to moderate amounts from shallow wells in soils and coastal dunes, (3) moderate to small quantities from shallow wells in fresh rock, (4) small to moderate quantities from soil or weathered rock, (5) small quantities from wells in fresh rock and meager amounts from weathered rock and soil, and (6) highly variable wells. Supplemental information on these classes is tabulated. Another map at scale 1:5,000,000, shows the availability of surface water in the classes perennially large to enormous amounts, large quantities during wet season and moderate quantities during dry season, and large quantities during wet season and meager quantities during dry season. The limits of annual inundation and brackish water are superimposed.

- H274-03-02-XL U. S. Operations Mission Thailand, "Lam Dom Noi mapping project Thailand."  
1:250,000, Bangkok, Thailand, n.d.  
AMS/ML  
2L-32-7.67  
90204-250

The map shows the location of the reservoir and irrigable land in the vicinity of 105°22'E between 14°45'N and 15°10'N. The base map shows drainage, roads, and contours at 100 meters.

CLIMATE SECTION

Text

- C1-02-02-XHV Baker, Vernon W., and Stanley, William R., A Special Review of the Tank Irrigation Program in Northeast Thailand. United States Operation Mission, Bangkok, Thailand, July 7, 1955, 30 pp, illus, maps.
- C2-01-02-XGLSVH Blanchard, Wendell, Thailand, Its People, Its Society, Its Culture. HRAF Press, New Haven, Conn., 1957, 528 pp, maps.
- C3-01-02-XV Bourke-Borrows, D. R. S., "The teak industry of Siam." Technical and Scientific Supplement to the Record, No. 3, Siam Ministry of Commerce and Communications, Bangkok, Siam (October 1927), 52 pp, illus, map.  
USDA  
269  
S114A
- C4-01-02-XGLSVH Bowring, Sir John, The Kingdom and People of Siam; with a Narrative to the Mission to That Country in 1855. 2 volumes, John W. Parker and Son, London, England, 1857, 482 and 446 pp, illus, map.
- C5-02-01-X0 Braak, C., Klimakunde von Hinterindien und Insulinde. Borntraeger, Berlin, Germany, 1931.

This reference, on the climate of the Further Indies, was not examined. However, in the Allied Geographical Section, Southwest Pacific Area, An Annotated Bibliography of the Southwest Pacific and Adjacent Areas, 4 volumes, Brisbane, Australia, 8 August 1944, the following annotation is given:

"An introduction of 29 pages deals with atmospheric pressure, rain, sunshine, air temperature, thunderstorms, wind-strengths, cyclones, mountain and valley winds, land and sea winds, uniformity of climate, adaptation, island climate, variableness, air layers (9 of these are full-page maps, and 2 pages give three small temperature maps each). Pages 30-51 deal with Indochina, Siam, Tenasserim (Burma), Philippines. Pages 52-96 deal with the equatorial part of the Asiatic-Australian monsoon area, including Malakka, Sunda Islands and Moluccas, Sumatra, Borneo, Java, and Madura, Celebes, Timor, Southwest and Southwest Kei and Aru Islands, Christmas and Keeling Islands, New Guinea and Solomon Islands. Page 96 gives a list of stations from which rain recordings have been taken, and pages 97-123 consist of tables."

- C6-02-02-XSL Brown, Glen F.; Buravas, Saman; Charaljavanaphet, Junchet; Jalichandra, Nitipat; Johnston, William D., Jr.; Sresthaputra, Vijsa; and Taylor, George C., Jr.; Geologic Reconnaissance of the Mineral Deposits of Thailand. U. S. Geological Survey Bulletin 984, Washington, D. C., 1951, 183 pp, illus, maps.
- C7-01-01-X0 Bunnag, Charoon V. and Dhararaks, Khun V., Climate of Siam. Scientific Article No. 4, Thailand Royal Meteorological Department, Bangkok, Thailand, August 1947, 16 pp.  
AMS  
QC990  
T3B94

This general article covers the climate or average weather of Siam. The country is divided into the usual five sections and the rainfall, temperature, prevailing winds, atmospheric pressure, fog, and seasons are discussed for each section. Generally, the climate of Thailand is affected to a great extent by the southwest monsoons and the China Sea typhoons.

- C8-01-02-XGLV      Garner, Julia, China: Pictorial, Descriptive, and Historical with Some Account of Ava and the Burmese, Siam, and Annam. Henry G. Bohn, London, England, 1853, 521 pp, illus, map.
- C9-01-02-XGLSHV      Credner, Wilhelm, Siam, das Land der Tai. J. Engelhorn's Nachf., Stuttgart, Germany, 1935, 422 pp, illus, maps.
- C10-01-02-XLSVH      Credner, Wilhelm, Siam, das Land der Tai. (Translated by Miss Collmann, Army Map Service.) 1959, 84 pp.
- C11-01-02-XGLSVH      Dobby, Ernest Henry George, Monsoon Asia. Quadrangle Books, Inc., Chicago, Ill., 1961, 381 pp, illus, maps.
- C12-01-02-XGLSVH      Dobby, Ernest Henry George, Southeast Asia. 7th ed., University of London Press, Limited, London, England, 1960, 415 pp, illus, maps.
- C13-01-02-XO      Dobby, Ernest Henry George, "Winds and fronts over Southeast Asia." The Geographical Review, vol 35, No. 2, New York, N. Y. (April 1945), pp 204-218, maps.
- AMS  
G1  
G35  
v. 35

The author, with the aid of 12 very small-scale maps, describes the wind currents and the extent of the doldrums over the Southeastern Asia region for each month. The doldrum belt reaches most of Malaya and Indo China and part of Thailand in May and reaches only Malaya in April and November. Analysis of seasonal airstreams (with the aid of 4 monthly charts) and the relation between the intertropical front and tropical cyclones conclude the generalized article.

- C14-C1-02-XV      Fosberg, F. R.; Garnier, B. J.; and Kuchler, A. W.; "Delimitation of the humid tropics." The Geographical Review, vol 51, No. 3, New York, N. Y. (July 1961), pp 333-347, maps.
- AMS  
G1  
G35  
v. 51

This is essentially three articles in one. Mr. Fosberg first discusses the systems used by each of the other authors in delimiting the humid tropic and gives a brief comparison of the two. He draws the conclusion that the two systems are so different that they cannot be combined and that each has its merits and the use of each would be related to the specific need. Mr. Garnier then describes the climatic criteria for delimiting the humid tropics. There are two normal systems of classifying climate: by plant growth and distribution and by the thermal strain experienced by human beings. The author rejects both systems believing that only climatic phenomenon should be considered. In describing his system, the author uses Africa as an example. Such criteria as distinctive air masses, variations in temperature, pressure, humidity, and precipitation are used. The map of tropical delimitation includes the area between 30°S and 30°N and 120°W to 180°E. Two principal criteria are listed based on mean temperature, humidity, and vapor pressure, and three secondary criteria are given based on mean annual rainfall and number of months with three inches or more of rainfall. Mr. Kuchler distinguishes two types of humid tropics: tropical rain forest (more or less permanently humid), and semideciduous (more or less periodically humid). His map covers the same area as Garnier's, but his units are more general and do not conform with Garnier's boundaries.

- C15-01-02-XV      Foxworthy, F. W., "Commercial timber trees of the Malay Peninsula." Malayan Forest Records, No. 3, Federated Malay States Forest Department, Singapore, 1927, 195 pp, illus, map.
- LC  
SD97  
.M3A33



C16-01-01-XO      Garnier, B. J., "Delimiting the humid tropics." International Council of Scientific Unions Review, vol 2, No. 4, Amsterdam, The Netherlands (October 1960), pp 210- 218.

LC  
Q10  
.I69

The author states that a definition of humid tropical areas must be based on climatic criteria. The mean monthly temperature must be 68 F or more, mean monthly vapor pressure 20 psi or more, and mean relative humidity 65 percent or more. All MERS areas except parts of north Thailand and north Burma above 19° (approximately) are classed as humid tropics.

C17-02-01-XO      Gherzi, Ernest, Climatological Atlas of East Asia. Tousse Press, published for the Zikawek Observatory, Shanghai, China, 1944, 175 pp, maps.

USGS  
510(600)  
FG34c  
1944

This folio of maps and explanatory notes covers the countries of central and eastern Siberia, Kamchatka, Sakalin Island, Nippon, Korea, Manchuria, China, Formosa, the Philippines, Indochina, Thailand, and the western Pacific. It contains maps of monthly and annual mean temperature, absolute maximum and minimum temperature, mean annual temperature range, monthly and annual mean relative humidity, monthly and annual mean rainfall, monthly and annual mean rainy days, monthly and annual mean pressure and wind direction, three typhoon tracks, two continental depression tracks, typical weather for the four seasons, and main climatic regions of East Asia. A listing of the data supporting each map is given and a bibliography of material used is included.

C18-01-02-XGLSVH      Graham, Walter Armstrong, Simm: A Handbook of Practical Commercial and Political Information. 2nd ed., Alexander Moring, Limited, London, England, 1912, 637 pp, illus, map.

C19-01-01-XO      Great Britain Meteorological Office, Air Ministry, Tables of Temperature, Relative Humidity, and Precipitation for the World, Part V, Asia. M.O.617e, Her Majesty's Stationery Office, London, England, 1958, 129 pp, map.

LC  
QC982  
.5  
.G73

This report presents climatic data consisting of the period of observation; average daily, highest and lowest, and absolute maximum and minimum temperature; average relative humidity at 0830 and 1730 hours; and average monthly rainfall, maximum 24-hour rainfall, and average number of days with 0.1 inch or more of rainfall for each month of the year. These data are given for Bandon, Bangkok, Chiang Mai, Nakorn Rajasima, and Phuket, Thailand. A small-scale map locates the stations and geographical coordinates and elevations are given in tabular form.

C20-01-01-XH      Harza Engineering Company, 1960 Hydrologic Data Mekong River Basin in Thailand. Prepared for the Committee for Coordination of Investigation of the Lower Mekong River Basin and the U. S. Agency for International Development, Chicago, Ill., April 26, 1962, 108 pp, map.

C21-01-01-XH      Harza Engineering Company, 1961 Hydrologic Data Mekong River Basin in Thailand. Prepared for the Committee for Coordination of Investigation of the Lower Mekong River Basin and the U. S. Agency for International Development, Chicago, Ill., May 11, 1962, 195 pp, map.

- C22-01-01-XH Heide, J. Homan van der, General Report on Irrigation and Drainage in the Lower Menam Valley. Prepared for the Kingdom of Siam, Ministry of Agriculture, Bangkok, Thailand, June 1903, 149 pp, map.
- C23-01-01-XO Hight, H. Campbell, "The climate of Bangkok." The Journal of the Siam Society, vol 9, Part 2, Bangkok, Thailand (1912), 38 pp.  
DS  
561  
.T5
- This article is composed of only 14 pages of text; the remaining pages are detailed monthly rainfall and temperature statistics for the years 1902 to 1911. The text contains descriptions of average weather conditions for each month of an average year and has a large amount of quantitative data. Bar and line graphs illustrating similar facets are included.
- C24-01-05-XO Iyer, V. Doraiswamy, "Foreshadowing formula for the monsoon rainfall of Upper Siam." Quarterly Journal Royal Meteorological Society, London, England, vol 64, No. 342 (1938).
- Not available for review.
- C25-01-01-XO Iyer, V. Doraiswamy, "Rainfall of Siam." India Meteorological Department Scientific Notes, vol 4, No. 38, Calcutta, India (1931), pp 69-85, maps.  
LC  
QC990  
.I385
- This is a very technical publication containing comparative data on Indian and Siamese rainfall. It includes sections on geography, data, normal rainfall distribution, comparison of monsoon rains, and forecasting the monsoon rains of upper Siam. Tables give monthly and annual values for number of rainy days and amount of rainfall for 73 stations in Thailand, and very small-scale maps supplement the text.
- C26-01-01-XH Kambhu, Kujati, "Brief description of hydrologic features of river basins in Thailand." Journal of the National Research Council of Thailand, vol 2, No. 1, Bangkok, Thailand (February 1961), pp 39-48, illus, maps.
- C27-01-01-XHS Kambhu, Kujati, "Characteristics of floods and prevention of damages in Thailand." E/CN.11/Flood/L.28, Proceedings of the Regional Technical Conference on Flood Control in Asia and the Far East, Flood Control Series No. 3, ST/ECAFE/SER.F/3, United Nations Economic Commission for Asia and the Far East, Bangkok, Thailand, 1952, pp 240-243.
- C28-01-01-XHSL Kheosiplard, Pard, "Irrigation in Siam." Reclamation Era, vol 33, Washington, D. C. (April 1947), p 95.
- C29-02-01-XV . . . . ., Swadi, Teak in Thailand. No. R.16, Thailand Royal Forest Department, Bangkok, Thailand, 1954, 31 pp, illus, maps.
- C30-01-02-XGLSVH McCarthy, James, Surveying and Exploring in Siam. J. Murray, London, England, 1900, 215 pp, charts, maps.

Climate, Text

- C31-01-01-XGLSVH Nuttonson, M. Y., The Physical Environment and Agriculture of Thailand. American Institute of Crop Ecology, Washington, D. C., 1963, 256 pp.
- C32-01-01-XGLSHV Pacific Science Congress, 9th, Bangkok, Thailand, Thailand, Past, and Present. Bangkok, Thailand, 1957, 193 pp, map.
- C33-01-01-XGLSVH Pendleton, Robert Larimore, Thailand, Aspects of Landscape and Life. Duell, Sloan, and Pearce, New York, N. Y., 1962, 331 pp, illus, maps.
- C34-02-01-XVSL Royen, William van, "The agricultural resources of the world." Atlas of the World's Resources, vol. 1, Rinehart-Hall, Inc., for the University of Maryland, New York, N. Y. (1954), 257 pp, maps.
- C35-02-01-XH Siam Royal Irrigation Department, Administration Report of the Royal Irrigation Department of Siam for the Period 2457 B.E. - 2468 B.E. (1914-15) - (1925-26). Bangkok Times Press, Limited, Bangkok, Siam, February 1927, 219 pp, map.
- C36-01-01-XH Siam Royal Irrigation Department, Hydrological Study for Lam Phra Plerng Dam Project, Pakdongchai, Korat. Bangkok, Thailand, 1955.
- C37-01-02-XGLS Spencer, Joseph Earle, Asia East by South. John Wiley and Sons, Inc., New York, N. Y., 1954, 453 pp, illus, maps.
- C38-01-01-XVS Suvatabandhu, K., "Vegetation of Thailand and its correlation with climate and soil type." Proceedings of the Symposium on Humid Tropic Vegetation, Tjawi, Indonesia, UNESCO Science Cooperation Office for South East Asia, New Delhi, India (December 1958), pp 170-175.
- C39-01-04-XO Texas University, Electrical Engineering Research Laboratory, Tropical Meteorology Bibliography. Prepared for U. S. Army Signal Research and Development Laboratory, 1962.

This bibliography is composed of approximately 2800 multilingual (approx 80 percent English) entries on printed 4 by 6 cards, many of which are annotated. There are 32 different subject headings which range from geographic areas to specific meteorological topics, and all are cross referenced for easy location. Only the section entitled "Southeast Asia" was examined, and several useful technical articles were found.

- C40-01-01-XG Thailand Central Service of Statistics, Statistical Year Book Thailand. Bangkok, Thailand, 1916-1951, various dates and pages.
- C41-01-01-XG Thailand Central Statistical Office, The National Economic Council Bulletin of Statistics. Vol 3, No. 1-3, Bangkok, Thailand, January-March 1954, 48 pp.

- C42-01-01-XG Thailand Central Statistical Office, Office of the National Economic Development Board, Statistical Year Book for Thailand No. 23, B.E. 2499 (1956) to 2501 (1958). Bangkok, Thailand, 1961, 550 pp. (In Thai and English.)
- C43-01-01-XLE Thailand Department of Commercial Intelligence, Thailand Nature and Industry, II, Physical Features, Geology, and Climate. Bangkok, Thailand, September 1951, 43 pp, illus.
- C44-01-01-XG Thailand Division of Agricultural Economics, A Statistical Review of Thai Agriculture, 1954. Bangkok, Thailand, August 1956, 146 pp. (In Thai and English, with maps.)
- C45-02-01-XGHV Thailand Ministry of Agriculture, Agriculture in Thailand, Bangkok, Thailand, 1957, 263 pp, illus, maps.
- C46-01-01-XH Thailand Ministry of Commerce, "Note on irrigation in Siam." The Record, vol 14, No. 15, Bangkok, Thailand (January 1935), pp 121-136.
- C47-01-01-XGLSVE Thailand Ministry of Commerce and Communications, Siam Nature and Industry. Bangkok Times Press, Limited, Bangkok, Thailand, November 1930, 323 pp, illus, maps.
- C48-01-01-XG Thailand National Economic Council, Central Statistical Office, Statistical Year Book, new series, 1952---, various dates and pages.
- C49-01-01-XHS Thailand Royal Irrigation Department, The Greater Chao Phraya Project. Bangkok, Thailand, 1955, 43 pp, maps.
- C50-02-01-XHE Thailand Royal Irrigation Department, The Yan-Hee Hydro-Electric Multi-purpose Project, Thailand. Bangkok, Thailand, January 1953, 253 pp, illus, maps.
- C51-01-01-XO Thailand Royal Meteorological Department, Annual Meteorological Bulletin. Vol 2, Bangkok, Thailand, 1938-39, 77 pp.
- IC  
GPRR

This bulletin is written in both Thai and English, and all parts have the same format. The report begins with a brief summary of weather conditions in Thailand during the month and a listing of the meteorological stations (approximately 40) along with their geographical coordinates. The report then gives hourly values of pressure, temperature, relative humidity, surface winds, and rainfall for Bangkok; observations of visibility, amount of clouds, and form of clouds at 0700, 1000, 1300, and 1600 hours for Bangkok; daily and monthly values of meteorological elements and monthly summary for Bangkok; summary of observations on pressure, air temperature, relative humidity, surface winds, cloud amounts, visibility, rainfall, evaporation, and number of days with the various weather conditions (these readings may be daily or two, four, or eight times daily) for the remaining stations; monthly rainfall data of 76 listed stations (some are omitted); wind-roses of Bangkok and Satthib; and geographical location, state of sea and swell, surface winds, and number of days with various weather conditions for 11 coastal stations. This appears to be an excellent summary of the weather conditions as nearly all facets are covered.

C52-01-01-X0

Thailand Royal Meteorological Department, Annual Meteorological Bulletin.

Vol 5, Bangkok, Thailand, 1941, 150 pp.

LC  
GPRR

This bulletin is written in both Thai and English, and all parts have the same format. The report begins with a brief summary of weather conditions in Thailand during the month and a listing of the meteorological stations (approximately 40) along with their geographical coordinates. The report then gives hourly values of pressure, temperature, relative humidity, surface winds, and rainfall for Bangkok; observations of visibility, amount of clouds, and form of clouds at 0700, 1000, 1300, and 1600 hours for Bangkok; daily and monthly values of meteorological elements and monthly summary for Bangkok; summary of observations on pressure, air temperature, relative humidity, surface winds, cloud amount, visibility, rainfall, evaporation, and number of days with the various weather conditions (these readings may be daily or two, four, or eight times daily) for the remaining stations; monthly rainfall data of 78 listed stations (some are omitted); wind-roses of Bangkok and Sattib; and geographical location, state of sea and swell, surface winds, and number of days with various weather conditions for 11 coastal stations. This appears to be an excellent summary of the weather conditions as nearly all facets are covered.

C53-01-01-X0

Thailand Royal Meteorological Department, Annual Meteorological Data for the Years 1946-1950. Bangkok, Thailand, July 1, 1952, 160 pp.

DIA/DL  
EIP  
205948  
pt. 1/5

This is a listing of data for 33 meteorological stations in Thailand. Monthly and yearly values are given for barometric pressure (mean, extreme maximum and date, and extreme minimum and date); temperature (mean, mean maximum, mean minimum, extreme maximum and date, and extreme minimum and date); mean relative humidity at 0700, 1300, and 1900 hours; mean cloud amount at 0700, 1000, 1300, and 1600 hours; rainfall (total, maximum in one day and date, and number of rainy days); number of days with thunderstorms, lightning, thunder, fog, haze, dew, hail, or squall; frequency of wind direction from the eight points of the compass or calm; wind force (mean and maximum with date); and evaporation. Monthly actinometric observations for Bangkok for 1945-1950 are also included.

C54-01-01-X0

Thailand Royal Meteorological Department, The Climate of Thailand.

Bangkok, Thailand, 1958, 6 pp.

AMS  
30940  
T736

This article presents a very generalized picture of Thailand's climate. The country is divided into northern, northeastern, central, and southern areas and the topography of each is given in very general terms. Four regimes of climate are discussed and defined. They are winter, or northeast monsoon from November to February; summer in March and April; rainy, or southwest monsoon from May to September with the peak of rainfall in September; and a postmonsoon, or transitional, period in October. Temperatures, rainfall, humidity, cloudiness, thunderstorms, surface winds, and typhoons are mentioned. A table giving the monthly and yearly rainfall for Bangkok from 1910 to 1957 is included. Monthly extremes range from several 0.0 millimeter readings in January to one 485.0 millimeter reading in September, and yearly extremes range from 867 millimeters in 1920 to 1956 millimeters in 1957.

C55-01-01-X0

Thailand Royal Meteorological Department, Climatological Data, 10 Year Period 1943-1952. Vol 7, Bangkok, Thailand, 1953, 90 pp, illus, maps.

AMS  
30940  
T737  
v.7

This authoritative and informative publication contains weather data averaged over a 10-year period. Along with extensive charts are several graphs and maps. The maps show monthly distribution of rainfall and temperature in Thailand. Histograms show the normal rainfall for Thailand during the period of 1943-1952 at 78 cities. Artherographs are given for Bangkok, Songkhla, Chiangmai, and Nakorn Ratchasima. This information is accompanied by a general description of the weather followed by detailed weather data for 24 cities. These data include barometric pressure, temperature, humidity, number of days with different types of bad weather, wind direction, wind force, rainfall, evaporation, visibility, and mean cloud amount. In all, 50 columns of figures are averaged (by month for the 10-year period). A yearly average is also given. The publication concludes with actinometric observations for Bangkok for the period of 1951-1955.

C56-02-05-X0

Thailand Royal Meteorological Department, An Investigation of Typhoons and Tropical Depressions. Bangkok, Thailand, 1959, 1 p of text, 42 maps.

USWB  
M15.23  
T364 in  
oversize

This reference is not available for review; however, in the Texas University Tropical Meteorology Bibliography, the following annotation is given:

"Maps of SE Asia and the Western Pacific are hand drawn to show monthly and yearly typhoon and tropical depression tracks for the period 1947-1956. Only 2 typhoons from Indo China and the South China Sea reached Thailand and their effect (mainly in relieving rainfall deficiencies) is briefly discussed in the text."

C57-01-01-X0

Thailand Royal Meteorological Department, Mean Frequency of Cloudiness. Bangkok, Thailand, January 26, 1953, 4 pp.

DIA/DL  
EIF  
205948  
pt. 3/5

This report is composed of two tables. The first table gives the mean monthly and seasonal cloudiness for 32 stations in Thailand for the times of 0700, 1000, 1300, 1600, and 2000 hours for periods of time ranging from 1943-1944 to 1943-1946 with the majority being for 1943-1946. The second table gives mean cloudiness at 0700, 1000, 1300, and 1600 hours during the period of 1942-1946 for the cities of Bangkok, Don Muang, Nakorn Rajasima, Chiang Mai, Sattahib, Phitsanuloke, Songkla, Bandon, Udorn, and Phuket.

C58-01-05-X0

Thailand Royal Meteorological Department, Monthly and Annual Rainfall of Thailand for (1946, 1948-50, and 1952-1954). Bangkok, Thailand, various dates.

USWB  
MO6.1/593  
T364mr  
1949-

Not available for review.

C59-01-01-X0

Thailand Royal Meteorological Department, Monthly and Annual Rainfall of Thailand for 1951. Bangkok, Thailand, July 1, 1952, 18 pp.

DIA/DL  
EIF  
205948  
pt. 2/5

This report gives the number of rainy days, rainfall, normal rainfall, and departure from the normal for 14 stations in the northern part, 19 in the northeastern part, 29 in the central part, 10 in the eastern part, and 21 in the southern part of Thailand along with regional figures of total and average for each month and for the year. A table giving the years and number of years averaged for the normal figures concludes the report.

C60-02-01-X0

Thailand Royal Meteorological Department, Monthly and Annual Rainfall of Thailand for 1955. Bangkok, Thailand, 1957, not paged, map.

AMS  
QC925.5  
T3T36  
1955

This report gives monthly and annual number of rainy days and rainfall for 88 stations in northern Thailand, 101 stations in northeastern Thailand, 137 stations in central Thailand, 25 stations in southeastern Thailand, and 83 stations in southern Thailand. Monthly and annual averages are given for each region. Monthly mean, maximum, and minimum river stages are included for 31 stations on 14 rivers and a condensed table of overbank occurrences for the rivers conclude the report. The map, "Yearly rainfall of Thailand for B.E. 2498 (1955)," is at a scale of 1:6,000,000. It has isohyetal lines at the 1270- and 2794-millimeter levels with the three mapped units being characterized as dry, moderately wet, and remarkably wet. Only a small percentage of the country is shown in the latter category with the first two appearing evenly divided with a random distribution.

Climate, Text

C61-01-01-X0      Thailand Royal Meteorological Department, Monthly and Annual Rainfall over Thailand for 1957. Bangkok, Thailand, 1957, 2 pp.

AMS  
QC925.5  
T3T36  
1957

This report gives the rainy days per month and total rainfall per month as well as the yearly total of each for the year for each rainfall station. There are 14 stations in northern Thailand, 16 stations in northeastern Thailand, 23 stations in central Thailand, 6 stations in the Gulf of Thailand east coast, and 18 stations in southern Thailand.

C62-01-01-X0      Thailand Royal Meteorological Department, Monthly and Annual Rainfall over Thailand for 1958 (B.E. 2501). Unpublished, Bangkok, Thailand, 1958, 5 pp.

AMS  
QC925.5  
T3T36  
1958

This report gives the rainy days per month and total rainfall per month as well as the yearly total of each for the year at each rainfall station. There are 14 stations in northern Thailand, 16 in northeastern, 23 in central, 6 in Gulf of Thailand east coast, and 17 in southern Thailand.

C63-01-01-X0      Thailand Royal Meteorological Department, Monthly Meteorological Bulletin. Bangkok, Thailand, 1949, 34 pp (each month).

USWB  
MO6.1/593  
T364m  
14:1949

This is the first complete bulletin to be issued since World War II. Abbreviated forms were issued for the years 1946-1948, and none were issued for 1945. This series of bulletins is the same as the 1952 editions with the exception that no monthly summary of weather conditions for the country is given and there are only eight coastal stations.

C64-01-01-X0      Thailand Royal Meteorological Department, Monthly Meteorological Bulletin. Bangkok, Thailand, 1952, 34 pp (all parts).

AMS  
QC990  
T3T39  
v. 17  
pts.  
1-12

This bulletin is written in both Thai and English, and all parts have the same format. The report begins with a brief summary of weather conditions in Thailand during the month and a listing of the meteorological stations (approximately 40) along with their geographical coordinates. The report then gives hourly values of pressure, temperature, relative humidity, surface winds, and rainfall for Bangkok; observations of visibility, amount of clouds, and form of clouds at 0700, 1000, 1400, and 1600 hours for Bangkok; daily and monthly values of meteorological elements and monthly summary for Bangkok; summary of observations on pressure, air temperature, relative humidity, surface winds, cloud amount, visibility, rainfall, evaporation, and number of days with the various weather conditions (these readings may be daily or two, four, or eight times daily) for the remaining stations, monthly rainfall data for 78 listed stations (some are omitted); wind-roses of Bangkok and Satthib; and geographical location, state of sea and swell, surface winds and number of days with various weather conditions for 11 coastal stations. This appears to be an excellent summary of the weather conditions as nearly all facets are covered.

C65-01-02-X0      Thailand Royal Meteorological Department, Thailand, Stations 48300-48599. Bangkok, Thailand, July 1, 1952, 2 pp.

DIA/DL  
EIF  
205943  
pt. 5/5

This is a table of the various climatological stations, their location by coordinates, elevations, and periods of times at which measurements were taken.

- C66-02-01-XV Thirawat, Sukhum, Brief Information on the Forestry Situation in Thailand. No. R.2, Thailand Royal Forest Department, Bangkok, Thailand, November 1953, 48 pp, map.
- C67-02-01-XV Thirawat, Sukhum, Brief Information of Forestry Situation in Thailand. Bulletin No. R.17, Thailand Ministry of Agriculture, Royal Forest Department, Bangkok, Thailand, January 1955, 85 pp, map.
- C68-02-01-X0 Thompson, Will F., Analoga of Canal Zone Climate in India and Southeast Asia. Environmental Protection Research Division Technical Report No. 91, U. S. Army Quartermaster Research and Engineering Center, Natick, Mass., June 1958, 24 pp, illus, maps.
- WES  
UC30  
U5t
- The report compares the climate of Cristobal and Balboa Heights, Canal Zone, to that in India and Southeast Asia. The two Canal Zone locations represent the Atlantic and Pacific parts of the Canal Zone as far as climate is concerned. Tables and analogy maps are given for mean temperature of the warmest month, mean daily maximum temperature of the warmest month, mean temperature of the coldest month, mean daily minimum temperature of the coldest month, mean daily temperature range of the warmest month, mean annual precipitation, mean precipitation of the wettest month, number of wet months, relative humidity of the driest month, mean cloud cover of the wettest month, and wind speed of the wettest month. Composite maps of analogous areas complete the report.
- C69-01-01-XH United Nations Economic Commission for Asia and the Far East, Field Methods and Equipment used in Hydrology and Hydrometeorology. ST/ECAFE/SER.F/22, New York, N. Y., 1962, 127 pp, illus.
- C70-01-01-XH United Nations Economic Commission for Asia and the Far East, Multiple-Purpose River Basin Development, Part 2C, Water Resources in British Borneo, Federation of Malaya, Indonesia and Thailand. Flood Control Series No. 14, ST/ECAFE/SER.F.14, Bangkok, Thailand, 1959, 135 pp, illus, maps.
- C71-01-01-XH United Nations Economic Commission for Asia and the Far East, Bureau of Flood Control, Flood Damage and Flood Control Activities in Asia and the Far East. Flood Control Series No. 1, ST/ECAFE/SER.F/1, Bangkok, Thailand, October 1950, 81 pp, illus, maps.
- C72-01-02-XH United Nations Economic Commission for Asia and the Far East, Committee for Coordination of Investigations of the Lower Mekong Basin, Hydrologic and Meteorological System in the Lower Mekong Basin. WRD/MKG/INF/L.71, Phnom Penh, Cambodia, December 29, 1961, 29 pp.
- C73-02-01-XGHV United Nations Food and Agriculture Organization, National Committee, Thailand, Thailand and Her Agricultural Problems. Thailand Ministry of Agriculture, Bangkok, Thailand, March 1949, 116 pp, illus, maps.



Climate, Text

C74-02-02-XHG United Nations Survey Mission, Lower Mekong River Basin, Program of Studies and Investigations for Comprehensive Development, Lower Mekong River Basin. TAA/AFE/3, January 23, 1958, Bangkok, Thailand, 42 pp, maps.

C75-01-02-XG U. S. Air Force, Military Attaché, Bangkok, Thailand, The Agriculture of Thailand. Unpublished, Bangkok, Thailand, May 23, 1952, 16 pp.

C76-02-01-XLS U. S. Army Air Forces, Headquarters, Climate of Bangkok (Thailand).  
General Climatic Information Guide No. 75, Washington, D. C., December 1943, 4 pp, maps.  
USWB  
M82.1  
U58G

Following a very brief description of the location and topography of Bangkok, short discussions of general climatic conditions including air masses, temperature, precipitation, cloudiness, fog and visibilities, and winds are presented. The conclusion is reached that no climate comparable to Bangkok occurs in the western hemisphere but Port au Prince, Haiti, gives the nearest equivalent. A table gives several military factors under air operations and ground operations, the appropriate prohibitive weather factors of each, and the months of most frequent and least frequent occurrences of the prohibitive factors. Figures present temperature, precipitation, visibility, and wind data, and two maps at a scale of 1:2,640,000 are included.

The first map is entitled "Topographic map" and covers the geographic area of 13°20'N to 14°25'N and 99°E to 100°35'E. It shows elevation differential by patterns with divisions at 150, 450, and 900 meters. Major drainage and Bangkok are included and the map has coordinates at 14°N and 100°E with tick marks at each 5 minutes.

The second map is entitled "Soil trafficability map" and covers the geographic area of 12°30'N to 15°15'N and 99°15'E to 101°30'E. It shows the areal extent of coarse-textured soils (sandy and gravelly) trafficable except during heavy precipitation; medium-textured soils (loams) trafficable except during and immediately after precipitation; mangrove swamps along shore, black alluvial clay inland, nontrafficable except over established roads; and mountain land (rocky) generally nontrafficable except over established roads. Drainage and major towns are included.

C77-02-01-XLHVS U. S. Army Engineer Waterways Experiment Station, CE, Environmental Factors Affecting Ground Mobility in Thailand; Preliminary Survey.  
Technical Report No. 5-625, Vicksburg, Miss., May 1963, 66 pp, illus, maps, appendixes.

C78-01-02-XGLSVH U. S. Army Map Service, CE, The Military Geography of Southeast Asia and Australasia. Engineer Intelligence Survey 85-56, Washington, D. C., May 1957, 20 pp, illus, maps.

C79-02-01-XLSVH U. S. Army Quartermaster General, Research and Development Division,  
Environment of Southeast Asia. Environment Protection Division Report  
No. 219, Natick, Mass., August 1953, 45 pp, illus, maps.  
DIA/DL  
EIF  
211085

This report covers the MERS study area south of 26°N and presents brief discussions of the cultural environment, physical environment, and military significance of the environment. The physical environment section discusses topography, climate, ground conditions, and vegetation and agriculture with emphasis on climate. All discussions except climate are very general with mountains, lowlands, and river barriers being covered in topography; lowland and mountainous mobility problems being covered in ground conditions; and dense forest, open forest, swamp and marsh plants, and wet rice fields being covered under vegetation and agriculture. These facets are usually described in terms of military operations. The climatic section describes regional climatic patterns, precipitation, temperature, humidity, winds, cloud cover and visibility, and storms with quantitative data supporting each facet. Several photographs are used for illustrations and six maps applicable to a terrain study are included. The first five of these maps are at an approximate scale of 1:14,400,000, and the sixth is at an approximate scale of 1:8,250,000.

The first map, "Southeast Asia terrain," shows areas of lowlands and mountains with trends of principal ridges included.

The second map, "River barriers," delineates streams fordable and not fordable at low water stages and shows the head of junk navigation.

The third map, "Southeast Asia average precipitation and prevailing surface winds during June, July, and August," has isohyetal lines at the 5-, 20-, 50-, and 100-in. levels with arrows depicting normal wind direction.

The fourth map, "Southeast Asia average precipitation and prevailing surface winds during December, January, and February," portrays the same units as the third map.

The fifth map, "Southeast Asia temperature regimes," shows the mean daily maximum, mean daily, and mean daily minimum temperatures for each month of the year at the cities of Bangkok, Khorat, Chiang Rai, and Phuket.

The sixth map, "Laos-Thailand area vegetation (generalized)," shows the areal extent of dense forest, open forest and grass, swamp and marsh, and wet field rice.

All maps have 5-deg coordinates.

C80-02-01-X0

U. S. Army Quartermaster Research and Engineering Command, Notes on Some Environmental Conditions Affecting Military Logistics in Thailand.

CIA

H503-9

.J52

Special Report S-1, Natick, Mass., June 1962, maps.

This report discusses factors that bear on military operations in Thailand. Among these factors are climate, national customs and characteristics, and hardships characteristic of the environment. Small-scale maps show climate station locations, physical regions, temperature (both mean and seasonal), wet and dry seasons, precipitation, color regions, principal rice areas, climate of Bangkok, and climatic analogs of Southeast Asia.

C81-01-01-XH

U. S. Bureau of Reclamation, Reconnaissance Report, Lower Mekong River Basin. Prepared for the International Cooperation Administration, Washington, D. C., March 1956, 211 pp, illus, maps.

C82-01-01-XHS

U. S. Bureau of Reclamation, Supporting Data on Construction and Materials for Yanhee Project Report, Thailand. Denver, Colo., 1954.

C83-01-02-XGL

U. S. Defense Military Assistance Institute, Country Study - Thailand. 3rd edition, Washington, D. C., July 1963, 222 pp, illus.

C84-01-02-XGL

U. S. Defense Military Assistance Institute, Thailand Country Study and Station Report. Washington, D. C., April 15, 1960, 141 pp.

C85-02-01-X0

U. S. Navy, Chief Naval Operations, Aerology Section, Climate of the East India Islands and South East Asia. NAVAER 50-IR-61, Washington, D. C., January, 1944, 111 pp, map.

DIA/DI

EIF

189870

This is a good general climatic reference for the area as a whole. It was translated from Handbuch der Klimatologie, Koppen, W., and Geiger, R., eds., and Klimakunde von Hinterindien und Insulinde, Dr. C. Braak, by Weather Information Branch, Headquarters, Army Air Forces, March 1943. It presents a general survey of climatic conditions for the subject area and discusses the climatology of the various countries. The discussions are liberally interspersed with quantitative data and many tables are used for further illustrations. A map, "Indochina station locations," 15395 AUS, October 1951, at a scale of 1:3,200,000 is attached to the folder containing this report and shows the meteorological stations of Indochina and the main climatic regions of the area.

Climate. Text and Maps

C86-01-01-XO U. S. Weather Bureau, Department of Commerce for the Weather Information Branch, Headquarters, Army Air Forces, Climate and Weather of Southeastern Asia, Part II, Farther India and the Netherlands East Indies. Vol 5, No. 3, part 2, Weather Research Center, Directorate of Weather, Washington, D. C., 1943, 141 pp, illus, maps.

USWB  
M82  
U58p  
v.5  
No. 3  
pt. 2

Thailand, Indochina, the Andaman Islands, and the Netherland East Indies are covered in this report. The climatic descriptions are for Farther India, and Thailand is seldom specifically referred to. Farther India is described in terms of a general description of the country, surface and upper air winds, cyclonic and local storms, thunderstorms, cloudiness, ceilings, fog, visibility, precipitation, and temperature. A separate section then describes Bangkok in these same terms and tables are included which give mean and extreme temperature and rainfall for the period of 1902-1911; monthly tabulations for a number of days with fog, relative humidity, cloudiness, and surface wind speed and direction; and seasonal winds aloft. General illustrations are included for Southeast Asia showing normal winds, isobars and prevailing surface winds, vertical structure of atmospheric circulation, mean monthly precipitation, average number of days with rain, prevailing winds and streamflow at different atmospheric levels, and other climatological data for the year.

C87-02-01-XLSVH University of Michigan, Department of Geography, Analysis of Geographic and Climatic Factors in Coastal Southeast Asia. Office of Research Administration Report No. 04231-1-F, Ann Arbor, Mich., March 1962, 178 pp, maps. (Prepared under U. S. Army Quartermaster Research and Development Command Contract No. DA-19-129-QM-1655.)

C88-01-01-XO Vadhanapanich, Charoen, "Some aspects of monsoonal rain in Thailand." Journal of the National Research Council of Thailand, Bangkok, Thailand, vol 2, No. 2 (May 1961), pp 49-62, illus, Thai summary.

LC  
GPRR

The author says that the peak of rainfall, with the exception of the Gulf of Thailand, occurs during the retreat of the southwest monsoon season in late August and September. Characteristic rainfall patterns for geographic areas are given and broken-line graphs give monthly rainfall in inches.

C89-01-02-XG Valkenburg, Samuel van, "Agricultural regions of Asia; part III, Farther India." Economic Geography, vol 9, No. 1, Concord, N. H. (January 1933), pp 1-18, maps.

C90-01-02-XVS Williams, Llewelyn, Thailand Survey of Vegetation. Agricultural Research Service, U. S. Department of Agriculture, unpublished, March 5, 1964, 43 pp, map.

Maps

C91-03-01-XV Bailey, H. P., "Coastal climates of the world." 1:50,000,000, University of California Press, Los Angeles, Calif., 1958. (Prepared under ONR Contract Nonr-233-(06), Nr388-013.)

LC/ML

This colored map shows climates or rainy tropical, subhumid tropical, warm semiarid, warm arid, hyperarid, rainy subtropical, summer-dry subtropical, rainy marine, wet-winter temperate, rainy temperate, cool semiarid, cool arid, subpolar, and polar, and the vegetation usually associated with each. The percentage of world coastline occupied by each is given along with the mean maximum, warmest month, and mean minimum, coldest month temperatures, and mean annual, mean annual days with greater than 0.10-inch precipitation, and winter concentration of precipitation. Lines of frequent fog and climatic stations are indicated on the map. Most of the MERS study area coastlines are portrayed as rainy tropical climates.

C92-03-01-XL      Barton, Thomas F., editor, "Southeast Asia and Australia." 1:10,750,000, A. J. Nyström and Company, Chicago, Ill., 1959.

C93-03-05-X0      Indochina Service Meteorologique, "Daily meteorological charts for Asia." 1:30,000,000, n.d..

Not available for review.

C94-03-05-X0      Indochina Service Meteorologique, "Meteorological charting maps for all Asia." 1:12,500,000, n.d.

Not available for review.

C95-03-05-X0      Indochina Service Meteorologique, "Meteorological map of Southeast Asia." 1:7,500,000, n.d..

Not available for review.

C96-03-01-XLV      Macmillan and Company, Limited, "Macmillan's Atlas for Southeast Asia." London, 1960, 32 pp.

C97-03-01-XV      Parry, R. E., Macmillan's Atlas for South East Asia. Macmillan and Co., London, England, 1963, 32 pp, maps.

C98-03-01-X0      Stresthaputra, Vija, "Chart showing mean monthly distribution of rainfall in Thailand." Approximately 1:18,000,000, plate no. 2, U. S. Geological Survey, Washington, D. C., 1951.

AMS/ML  
5L-1-5.00-  
90200-18.000

SEE: Brown, Glen F.; Buravas, Saman; Charaljavanaphet, Jumchet; Jalichandra, Nitipat; Johnston, William D., Jr.; Stresthaputra, Vija; and Taylor, George C., Jr.; Geological Reconnaissance of the Mineral Deposits of Thailand. U. S. Geological Survey Bulletin 984, Washington, D. C., 1951, 183 pp, illus, maps.

C99-03-01-X0      Stresthaputra, Vija, "Chart showing mean monthly distribution of temperature in Thailand." 1:16,000,000, plate no. 3, U. S. Geological Survey, Washington, D. C., 1951.

AMS/ML  
5L-1-5.00-  
90200-16.00

SEE: Brown, Glen F.; Buravas, Saman; Charaljavanaphet, Jumchet; Jalichandra, Nitipat; Johnston, William D., Jr.; Stresthaputra, Vija; and Taylor, George C., Jr.; Geological Reconnaissance of the Mineral Deposits of Thailand. U. S. Geological Survey Bulletin 984, Washington, D. C., 1951, 183 pp, illus, maps.

Climate, Maps

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C100-03-02-X0

CIA/ML  
H503-9  
110560

Thailand Royal Irrigation Department, "Map of Thailand showing paths of various rain carrying winds during rainy season." 1:5,000,000, map No. 26808, Thailand Ministry of Agriculture, Bangkok, Thailand, 1957.

SEE: Thailand Ministry of Agriculture, Agriculture in Thailand. Bangkok, Thailand, 1957, 263 pp, illus, maps.

C101-03-01-X0

Thailand Royal Irrigation Department, "Map showing the annual quantity of rainfall average between 1903-1937." 1:8,500,000 (approx), map No. 20054, print No. 3, Thailand Ministry of Agriculture, Bangkok, Thailand, 1949.

SEE: United Nations Food and Agriculture Organization, National Committee, Thailand, Thailand and Her Agricultural Problems. Thailand Ministry of Agriculture, Bangkok, Thailand, March 1949, 116 pp, illus, maps.

C102-03-01-X0

AMS/ML  
5L-1-5.00  
36318-5.000/2

Thailand Royal Irrigation Department, "Map showing the annual quantity of rainfall, average between 1903-1953." 1:5,000,000, Bangkok, Thailand, 1953.

This map has isohyetal lines at the 500- through 4500-millimeter levels with increments of 500 millimeters. Generally the country has less than 2000 millimeters of precipitation with the heaviest concentration of rainfall occurring in the southeastern and western peninsula portions of the country. Major towns and drainage are shown.

C103-03-01-X0

CIA/ML  
H503-9  
116942

Thailand Royal Irrigation Department, "Map showing the annual quantity of rainfall, average between 1903-1953." 1:5,000,000, map No. M00920Y, Thailand Ministry of Agriculture, Bangkok, Thailand, 1957.

SEE: Thailand Ministry of Agriculture, Agriculture in Thailand. Bangkok, Thailand, 1957, 263 pp, illus, maps.

C104-03-01-X0

Thailand Royal Irrigation Department, "Map showing the quantity of rainfall in irrigation season (June-November), average between 1903-1937." 1:8,500,000 (approx), map No. 20054, print No. 2, Thailand Ministry of Agriculture, Bangkok, Thailand, 1949.

SEE: United Nations Food and Agriculture Organization, National Committee, Thailand, Thailand and Her Agricultural Problems. Thailand Ministry of Agriculture, Bangkok, Thailand, March 1949, 116 pp, illus, maps.

C105-03-01-X0

AMS/ML  
5L-1-5.00  
36318-5.000

Thailand Royal Irrigation Department, "Map showing the quantity of rainfall in rainy season, average between 1903-1953." 1:5,000,000, Bangkok, Thailand, 1953.

This map has isohyetal lines at the 500- through 4500-millimeter levels with increments of 500 millimeters. Generally the country has less than 1500 millimeters of precipitation with the heaviest rainfall occurring in the southeastern and western peninsula portions of the country. Major towns and drainage are shown.

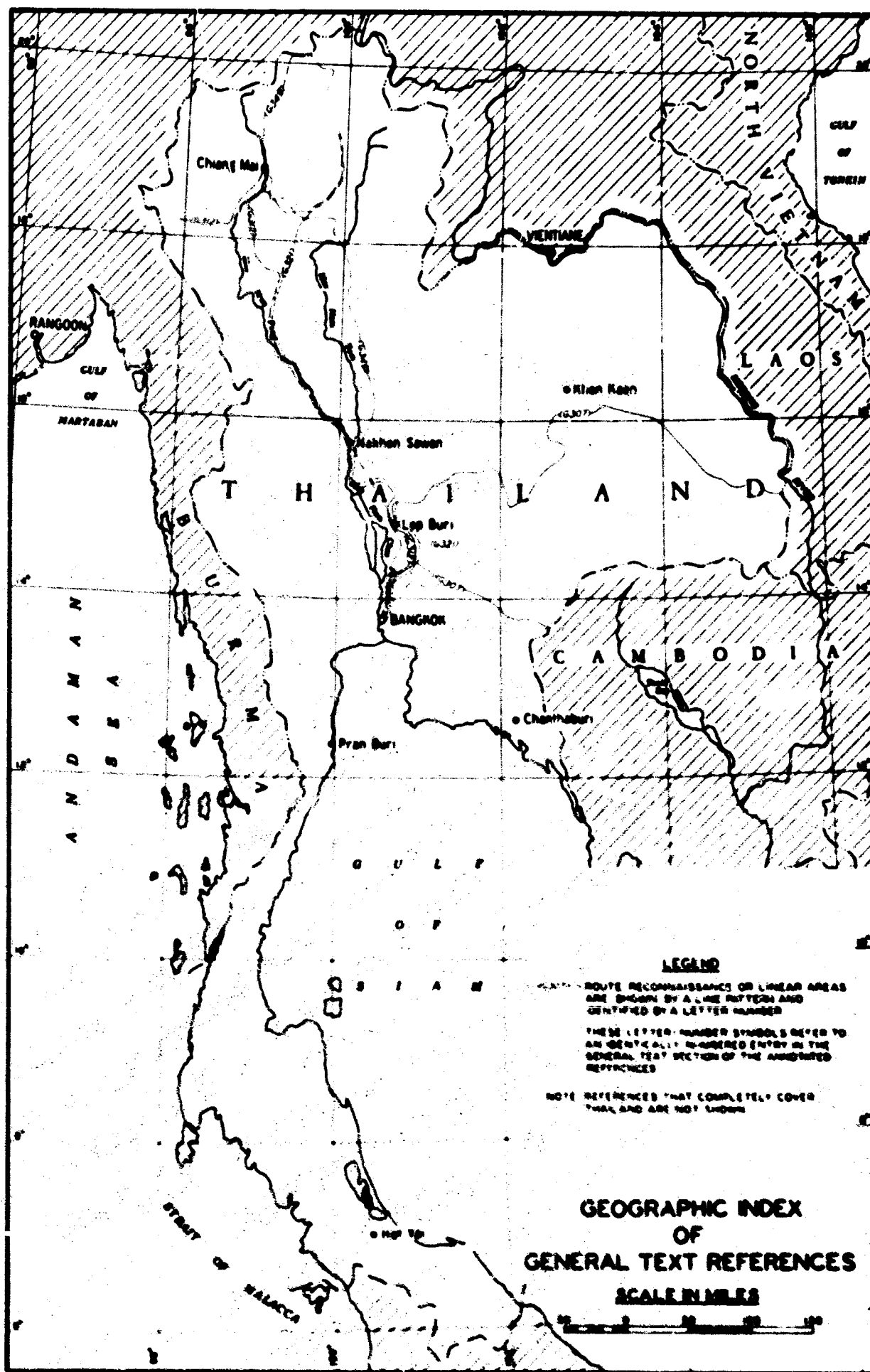
- C106-03-01-X0 Thailand Royal Irrigation Department, "Map showing the quantity of rainfall in rainy season, average between 1903-1953." 1:5,000,000, map No. MO0921Y, Thailand Ministry of Agriculture, Bangkok, Thailand, 1957.
- CIA/ML  
H503-9  
116941
- SEE: Thailand Ministry of Agriculture, Agriculture in Thailand. Bangkok, Thailand, 1957, 263 pp, illus, maps.
- C107-03-02-X0 Thailand Royal Irrigation Department, "Faths of various winds which bring rain to Siam during rainy season." 1:8,500,000 (approx), map No. 86808, print No. 4, Thailand Ministry of Agriculture, Bangkok, Thailand, 1949.
- SEE: United Nations Food and Agriculture Organization, National Committee, Thailand, Thailand and Her Agricultural Problems. Thailand Ministry of Agriculture, Bangkok, Thailand, March 1949, 116 pp, illus, maps.
- C108-03-01-X0 Thailand Royal Meteorological Department, "Climate of Thailand." 1:1,000,000, Thailand Royal Survey Department, Bangkok, Thailand, October 1961.
- These three colored sheets are a part of a series which is overprinted on the AMS series 1301. The maps show areal extent of savanna climate (less precipitation, distinctly dry in winter, may be represented by 'AW'), tropical monsoon climate (heavy annual rainfall with a short dry season, represented by 'AM'), and tropical rain forest climate (humid throughout the year, no month with less than 2.4 inches of rain, represented by 'Af'). Bar graphs and line curves show monthly rainfall and temperature with annual rainfall indicated for Chiang Rai, Chiang Mai, Muang Nai, Uttaradit, Udon Thani, Mae Saut, Phechabun, Muang Roi Et, Nakhon Sawan Muang Ubon, Nakhon Ratchasima, Kanburi, Bangkok, Hua Hin, Chanthaburi, Ranaung, Sauratthani, Songkhla, and Phuket. As these are overprints on the 1301 series, other information shown in the map is the same as on the series with the exception of elevation tints.
- C109-03-01-X0 Thailand Royal Meteorological Department, "Rainfall map showing mean monthly rainfall from the beginning of record up to B. E. 2481 (1938)." 1:9,250,000, Bangkok, Thailand, July 1, 1952.
- DIA/DL  
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- These monthly maps have isohyets at the 25-, 50-, 75-, 125-, 200-, 300-, 400-, and 500-millimeter levels. Data used to compile the maps were collected over periods ranging from 19 to 38 years.
- C110-03-01-X0 Thailand Royal Meteorological Department, "Yearly rainfall of Thailand for B. E. 2498 (1955)." 1:6,000,000, Bangkok, Thailand, January 10, 1957.
- SEE: Thailand Royal Meteorological Department, Monthly and Annual Rainfall of Thailand for 1955. Bangkok, Thailand, 1957, n.p., map.
- C111-03-01-X0 U. S. Army Quartermaster General, Research and Development Division, "Southeast Asia average precipitation and prevailing surface winds during December, January, and February." 1:14,400,000, Natick, Mass., August 1953.
- SEE: U. S. Army Quartermaster General, Research and Development Division, Environment of Southeast Asia. Environment Protection Division Report No. 219, Natick, Mass., August 1953, 45 pp, illus, maps.

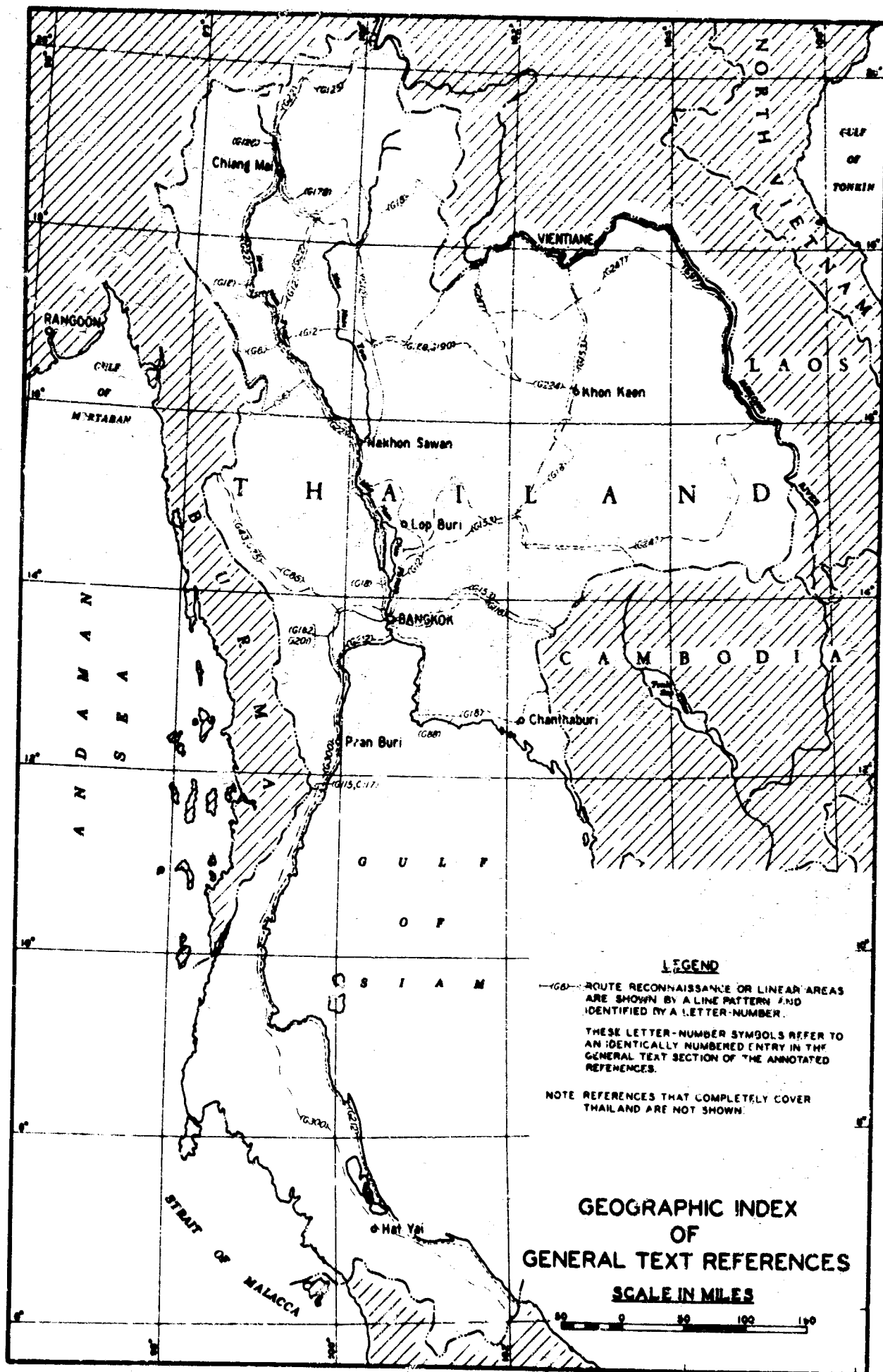
- C112-03-01-XO U. S. Army Quartermaster General, Research and Development Division, "Southeast Asia average precipitation and prevailing surface winds during June, July, and August." 1:14,400,000, Natick, Mass., August 1953.
- SEE: U. S. Army Quartermaster General, Research and Development Division, Environment of Southeast Asia. Environment Protection Division Report No. 219, Natick, Mass., August 1953, 45 pp, illus, maps.
- C113-03-01-XO U. S. Army Quartermaster General, Research and Development Division, "Southeast Asia temperature regimes." 1:14,400,000, Natick, Mass., August 1953.
- SEE: U. S. Army Quartermaster General, Research and Development Division. Environment of Southeast Asia. Environment Protection Division Report No. 219, Natick, Mass., August 1953, 45 pp, illus, maps.
- C114-03-01-XLSV U. S. Army Service Forces, Headquarters, Atlas of World Maps. Army Specialized Training Program, Army Services Forces Manual M-101, Washington, D. C., November 1943, 13 pp, 30 plates.
- C115-03-01-XO University of Michigan, Department of Geography, "Coastal Southeast Asia monthly precipitation." 1:14,400,000, Ann Arbor, Mich., March 1962.
- SEE: University of Michigan, Department of Geography, Analysis of Geographic and Climatic Factors in Coastal Southeast Asia. Office of Research Administration Report No. O4231-1-P, Ann Arbor, Mich., March 1962, 178 pp, maps. (Prepared under U. S. Army Quartermaster Research and Development Command Contract No. DA-19-129-QM-1655.)
- C116-03-01-XO University of Michigan, Department of Geography, "Southeast Asia average precipitation and prevailing surface wind June, July, and August." 1:14,400,000, Ann Arbor, Mich., March 1962.
- SEE: University of Michigan, Department of Geography, Analysis of Geographic and Climatic Factors in Coastal Southeast Asia. Office of Research Administration Report No. O4231-1-P, Ann Arbor, Mich., March 1962, 178 pp, maps. (Prepared under U. S. Army Quartermaster Research and Development Command Contract No. DA-19-129-QM-1655.)
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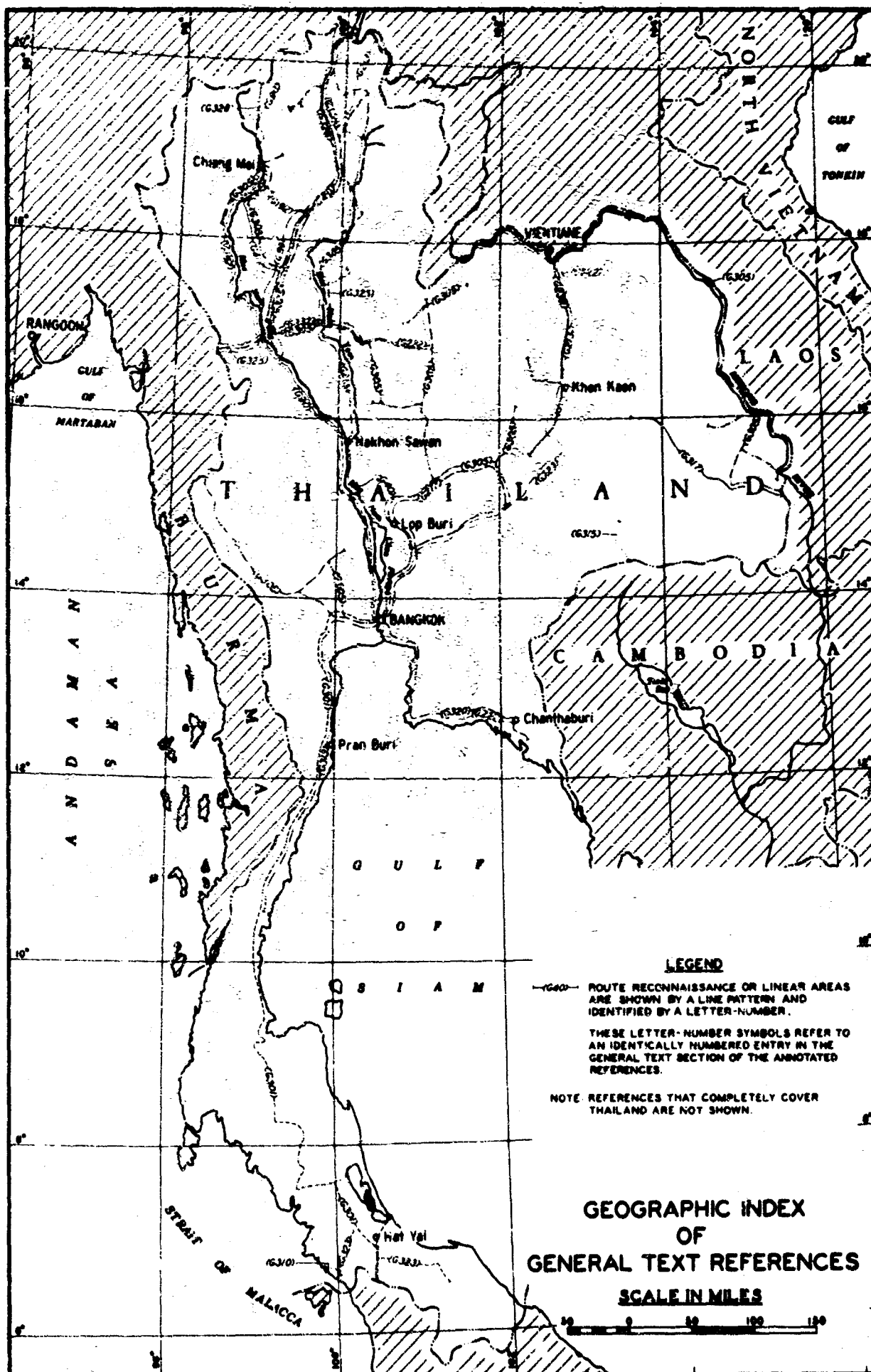
Table 1  
Numerical Tabulation of Bibliographic Entries

Section and Subsections	Evaluation Categories					Status of Bibliographic Entries			
	Quantitative Data	Qualitative Data	Useful Data	Bibliog- raphies, Etc.	Not Re- viewed	Total	Anno- tated	Cross- filed	
								viewed	Total
General									
Text	0	0	403	29	46	378	326	6	378
Maps	0	0	61	0	1	62	46	15	62
Total	0	0	364	29	47	440	374	21	440
Surface Geomorphology									
Text	6	51	0	1	1	59	14	44	59
Maps	105	95	0	5	0	165	119	49	168
Total	111	109	0	6	1	227	133	93	227
Soils and Geology									
Text	7	14	17	5	27	250	161	62	250
Maps	0	77	1	0	4	82	14	64	82
Total	7	91	18	5	31	332	175	126	332
Vegetation									
Text	3	115	11	1	12	145	71	62	145
Maps	0	67	7	1	3	78	22	53	78
Total	3	182	18	2	15	223	93	115	223
Hydrologic Geomorphology									
Text	18	77	20	1	16	152	94	42	152
Maps	29	86	5	1	1	122	82	39	122
Total	47	163	25	2	17	274	176	81	274
Climatology									
Text	11	25	0	1	3	90	58	29	90
Maps	22	2	0	0	3	27	5	19	27
Total	33	27	0	1	6	117	63	48	117
Combined									
Text	119	47	351	38	105	1074	724	245	1074
Maps	129	293	74	4	12	539	283	239	539
Total	248	769	425	42	117	1613	1012	484	1613

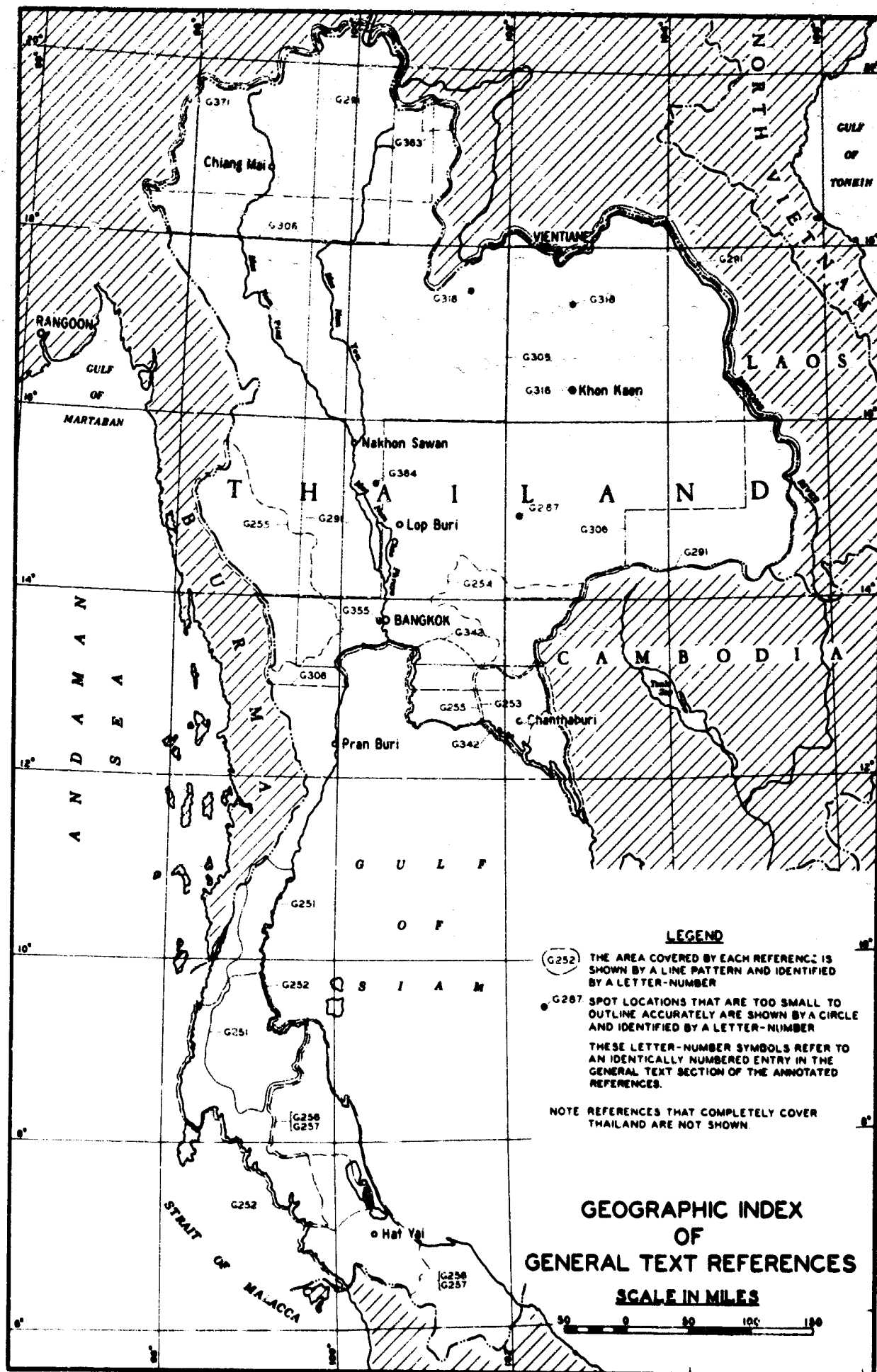


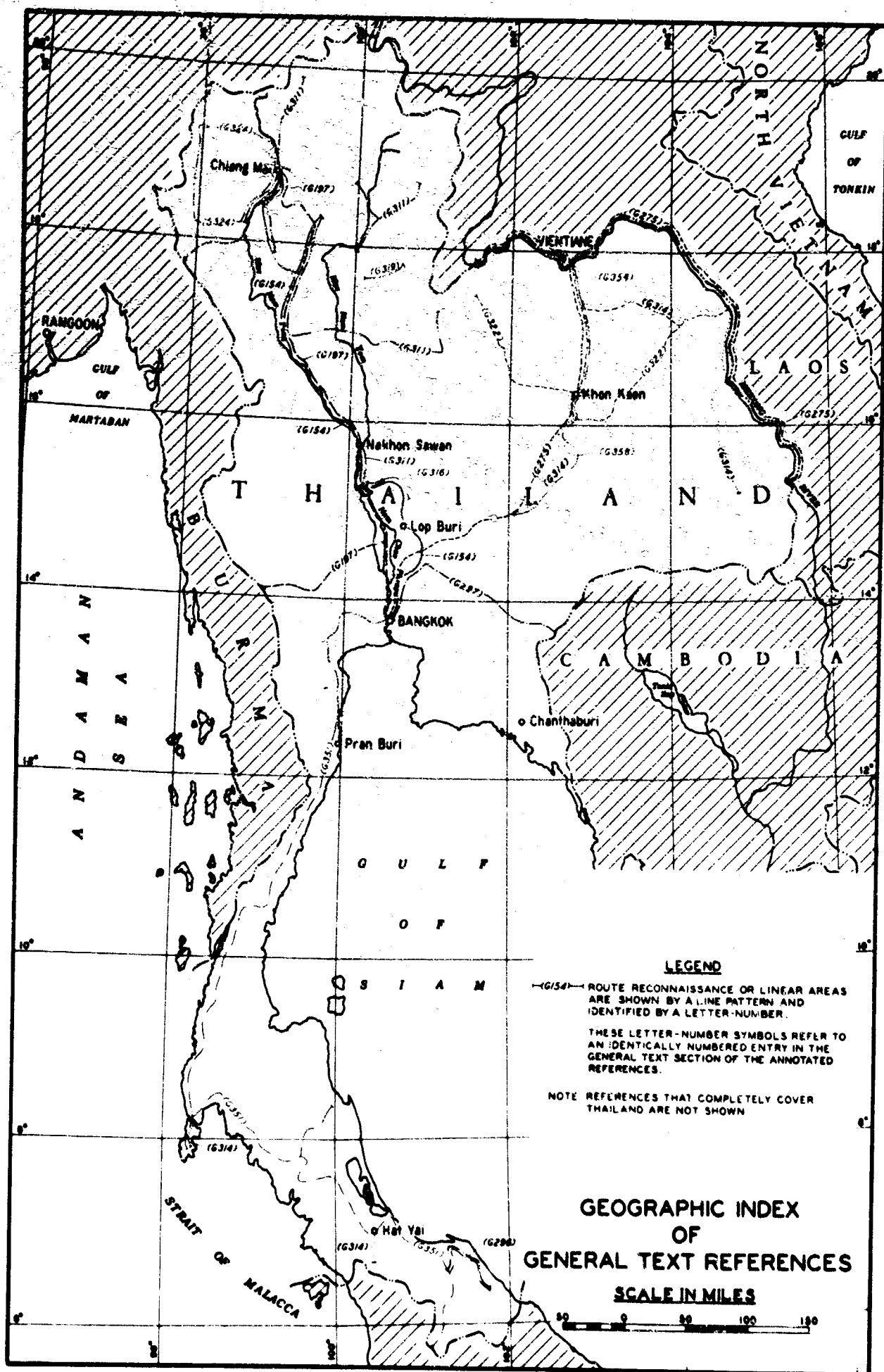


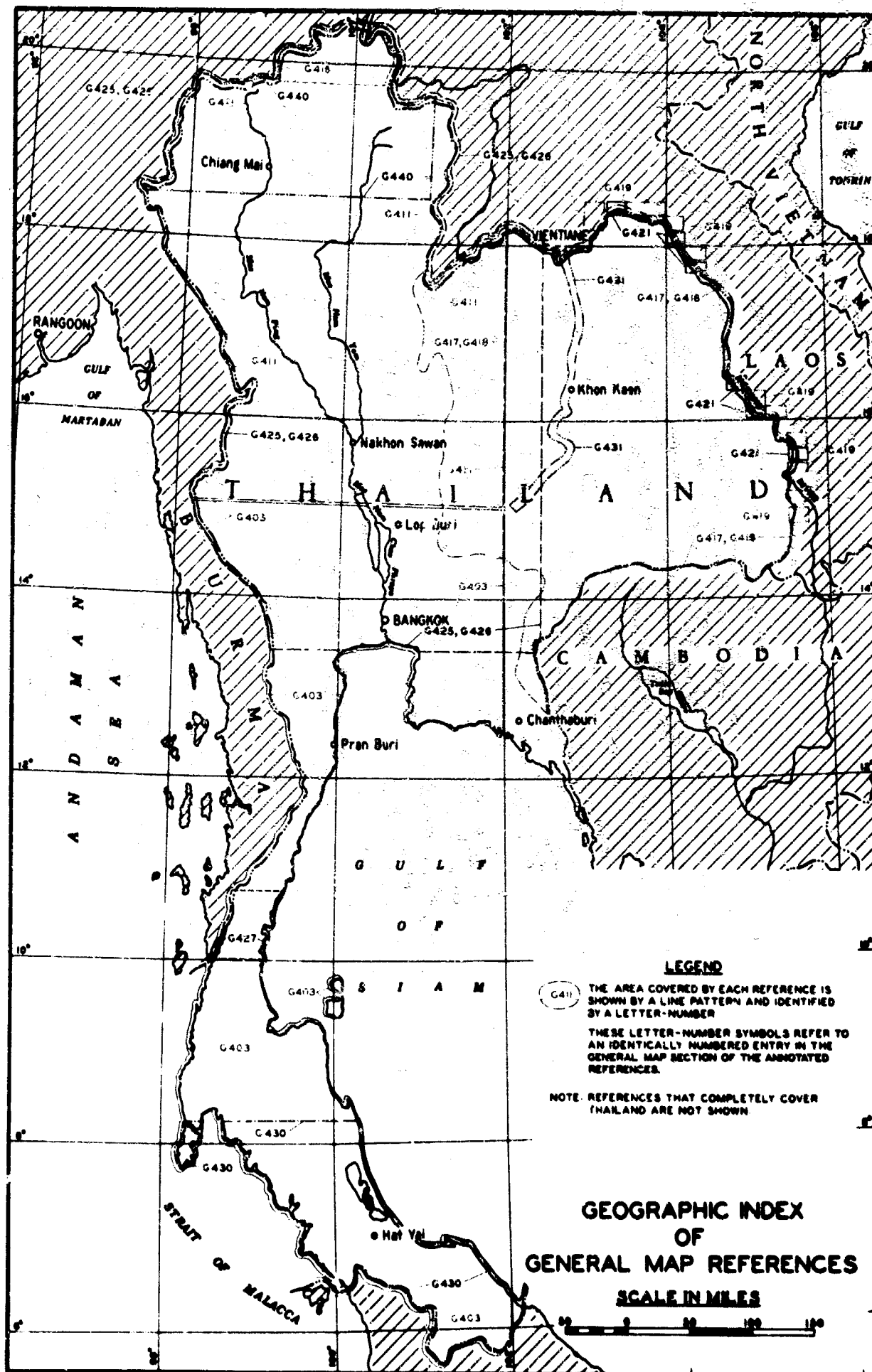






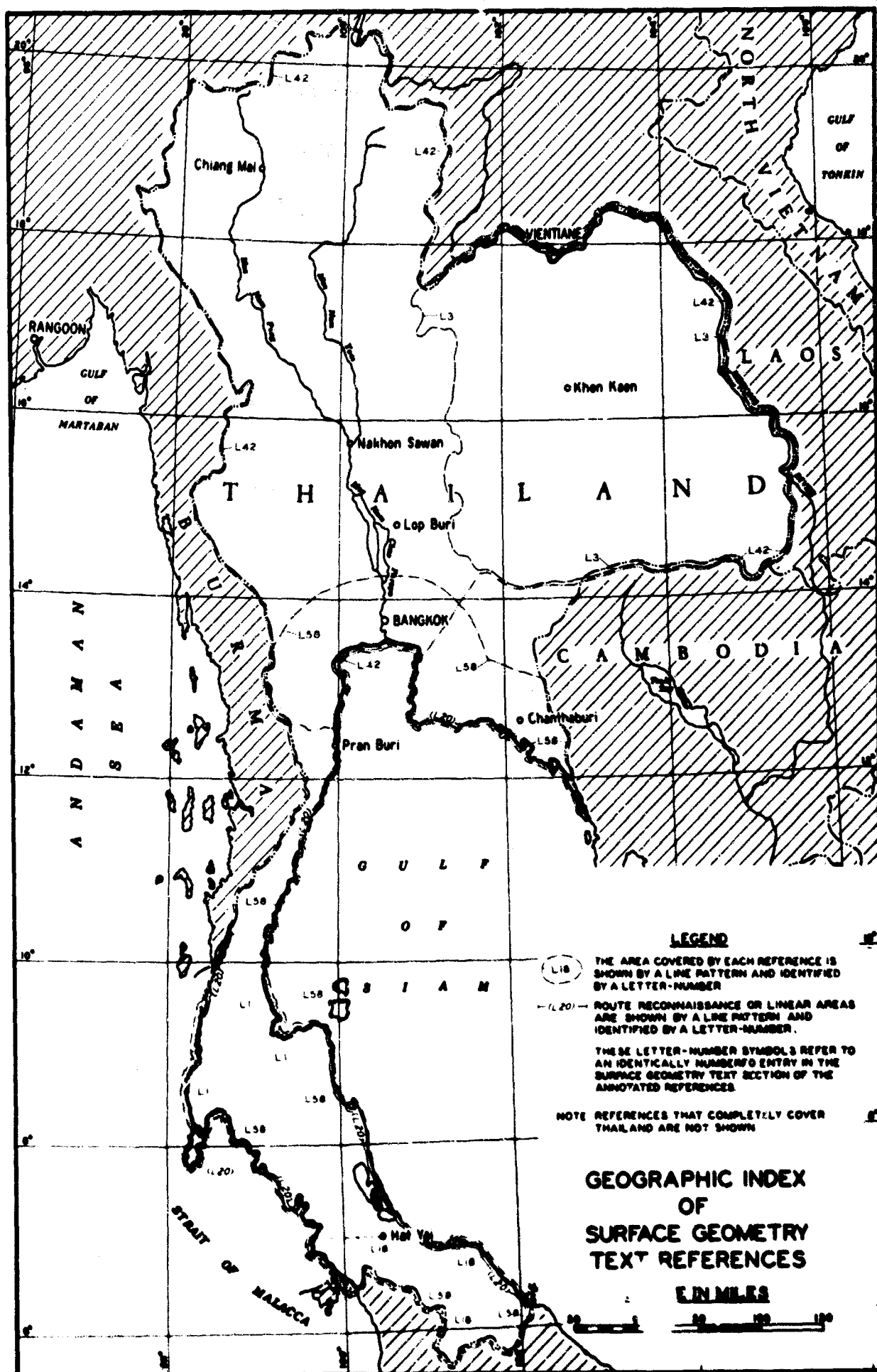


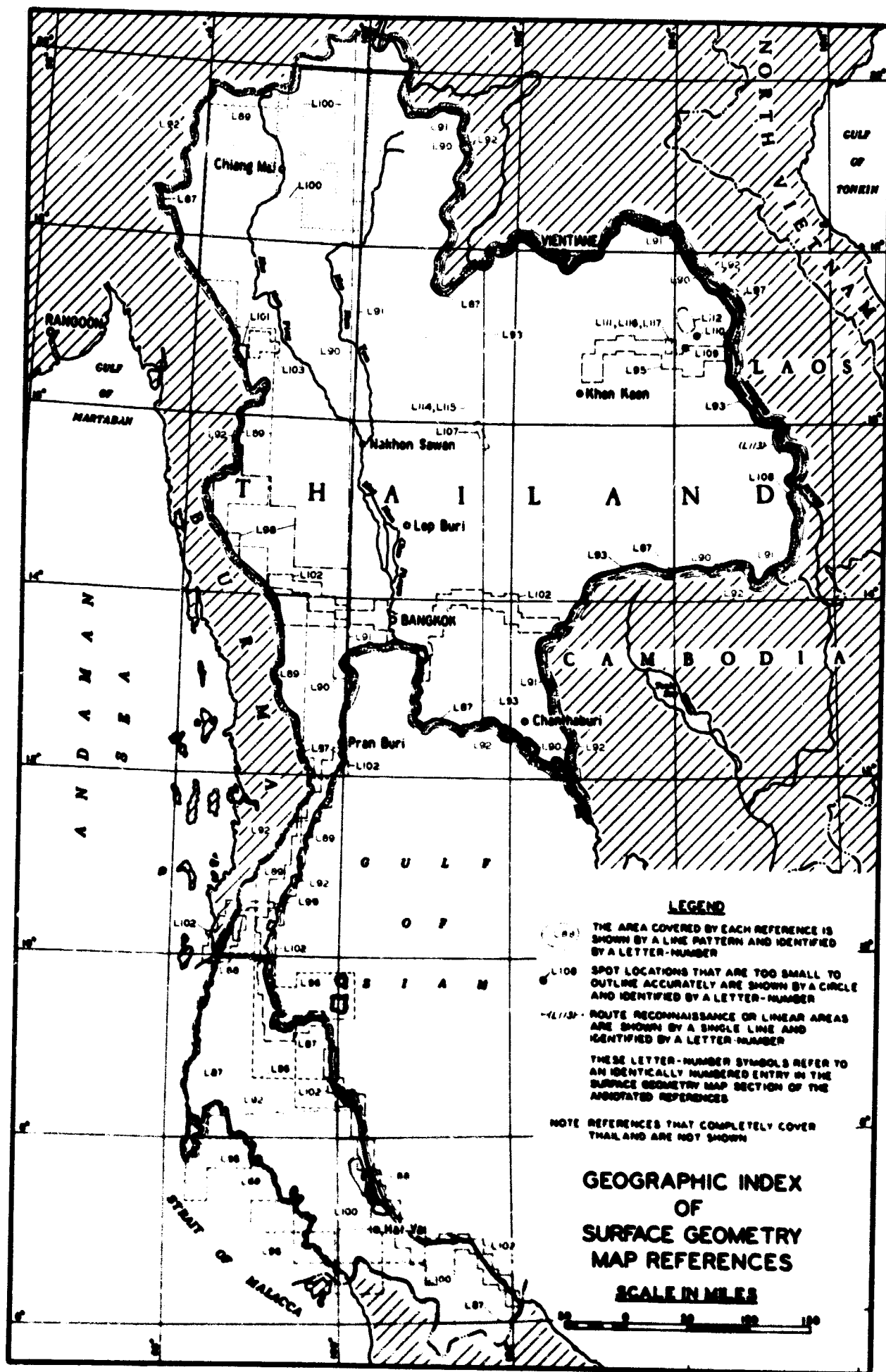




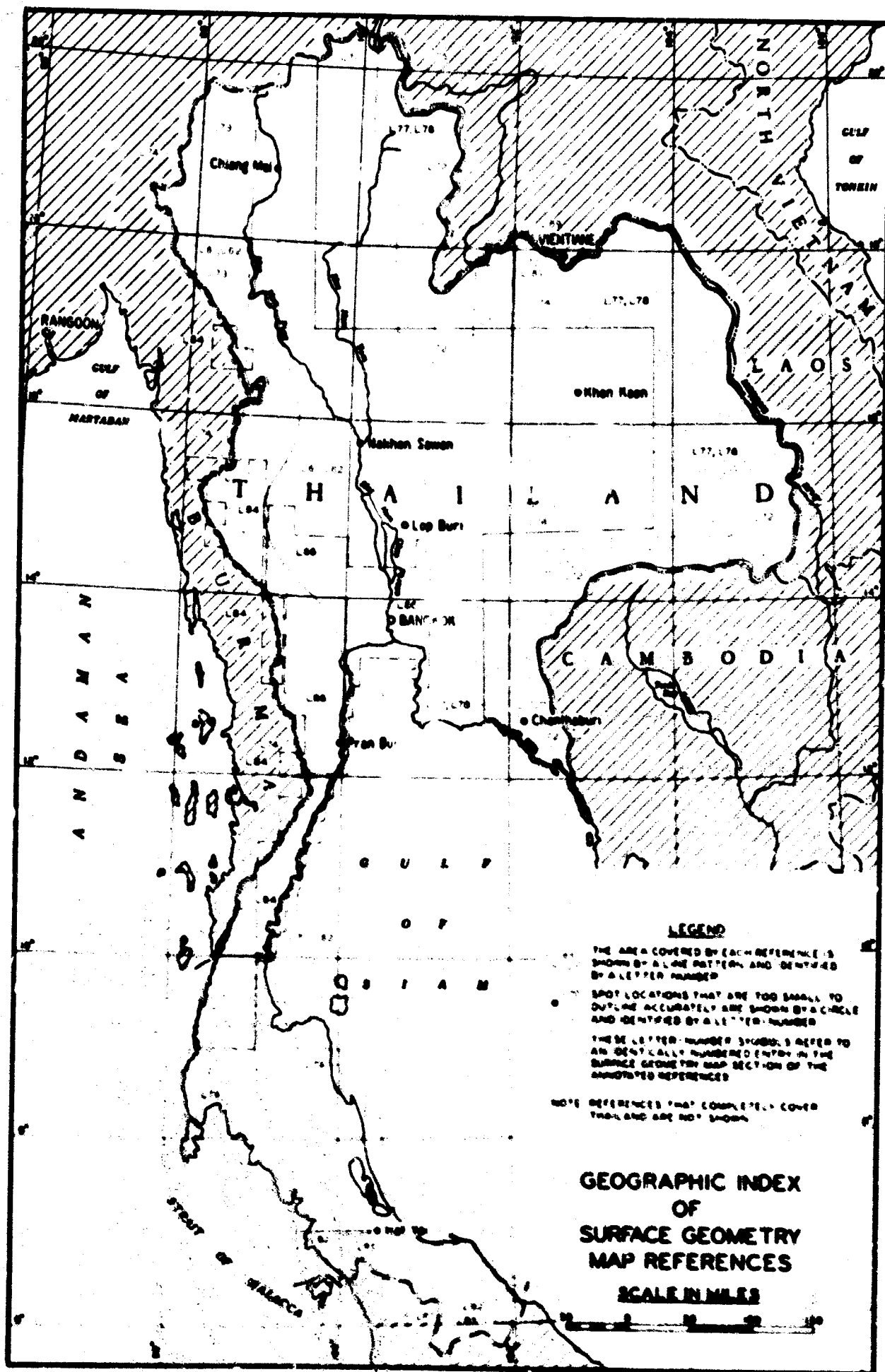


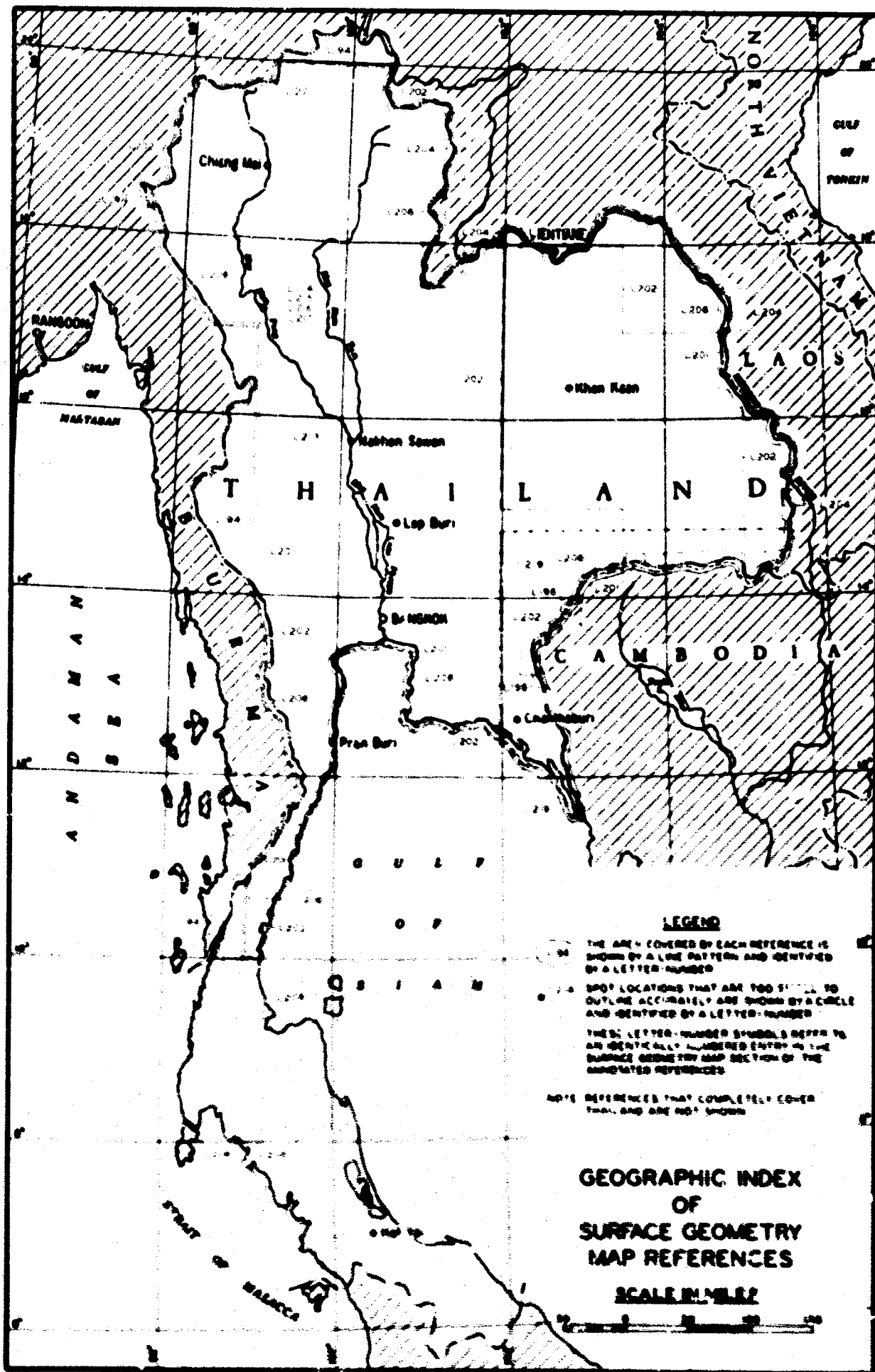


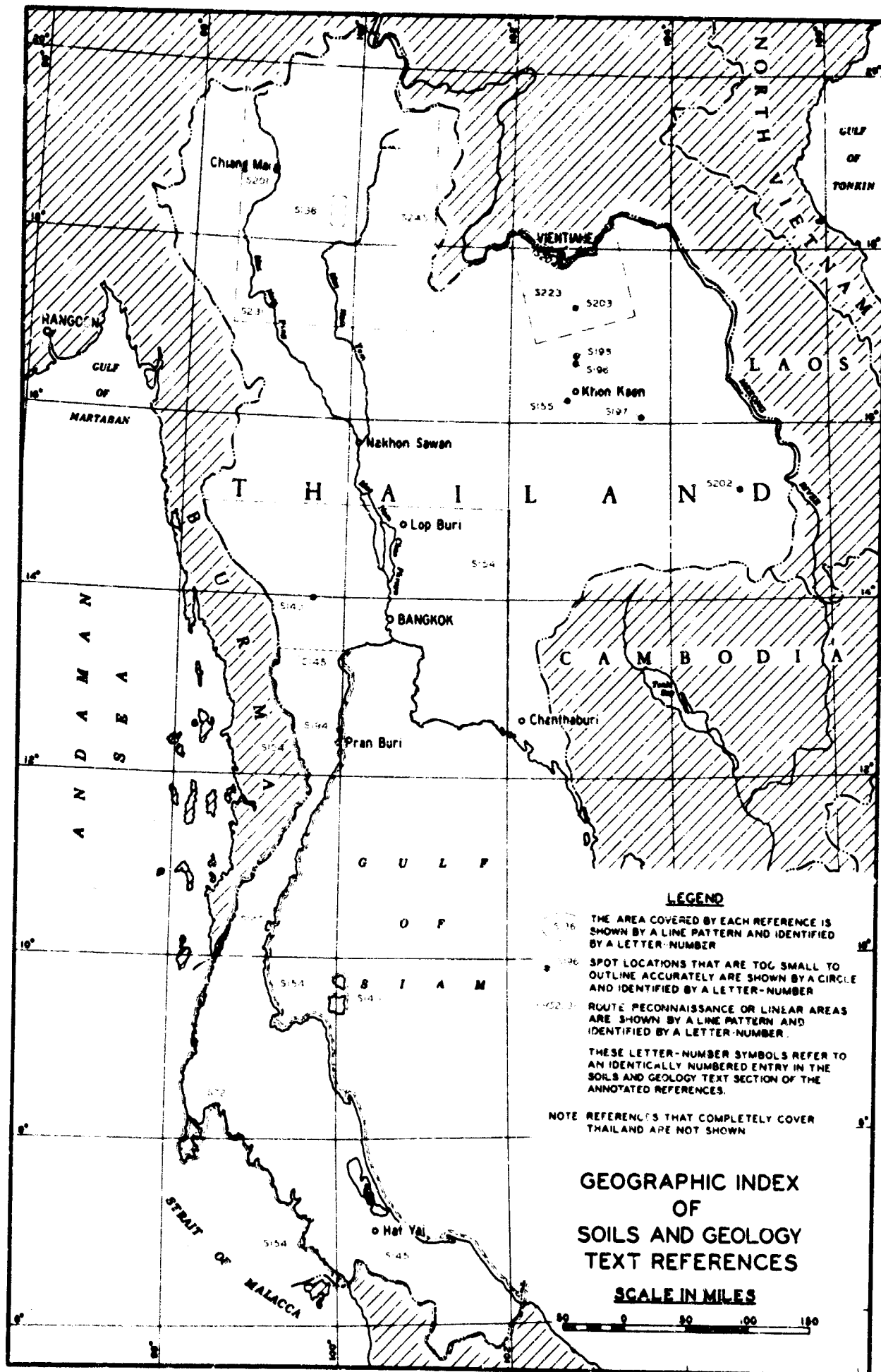


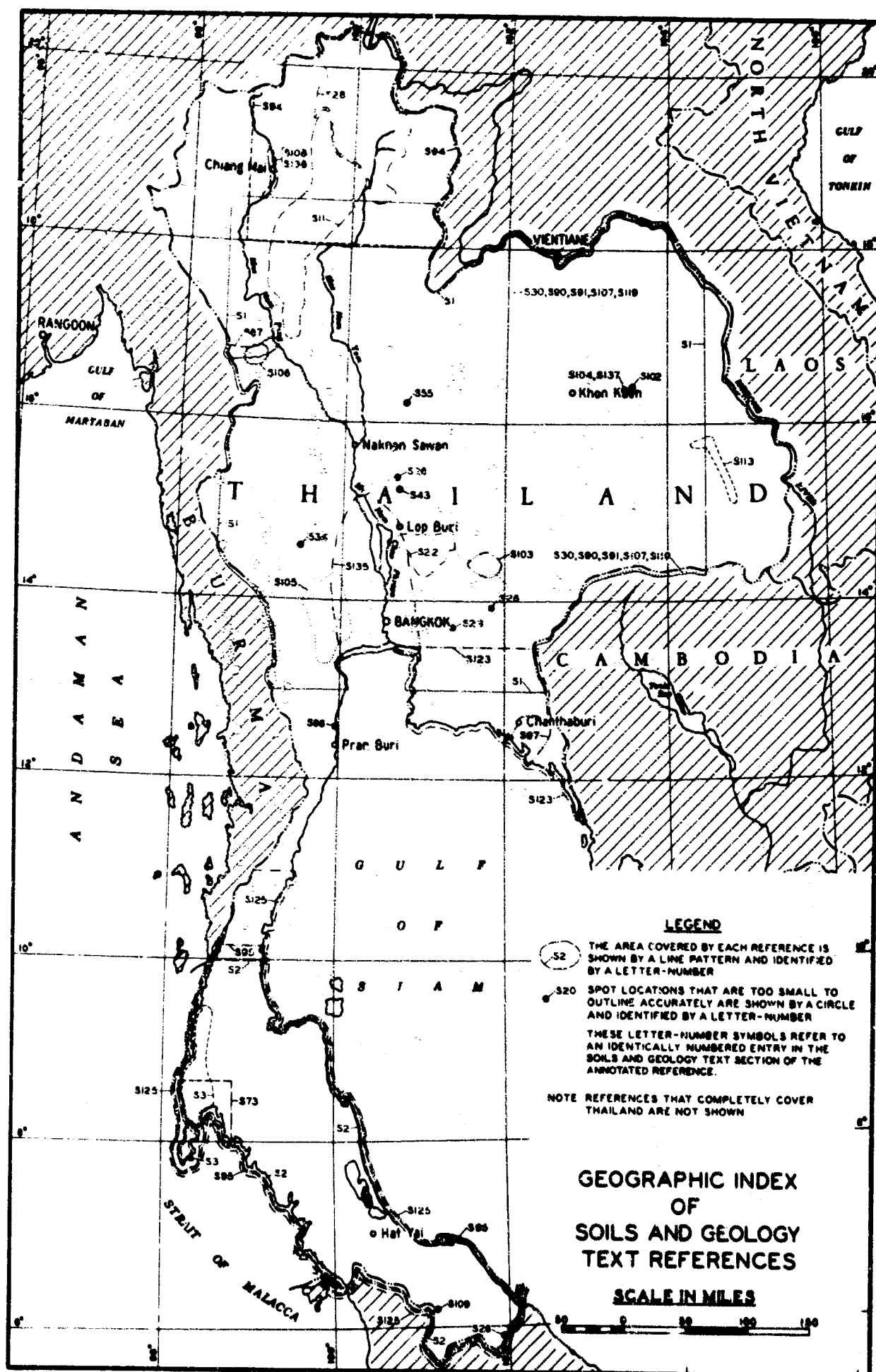


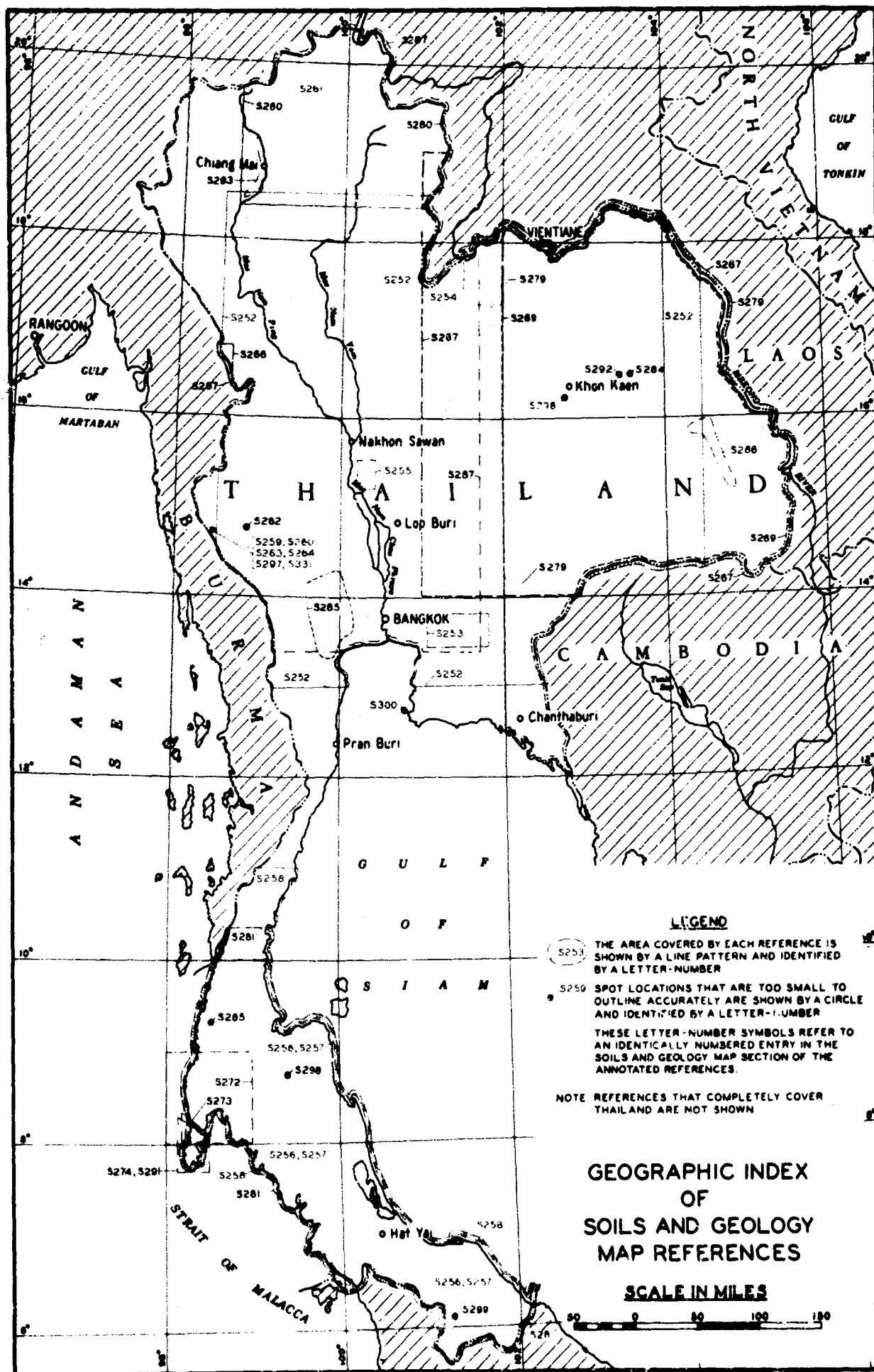




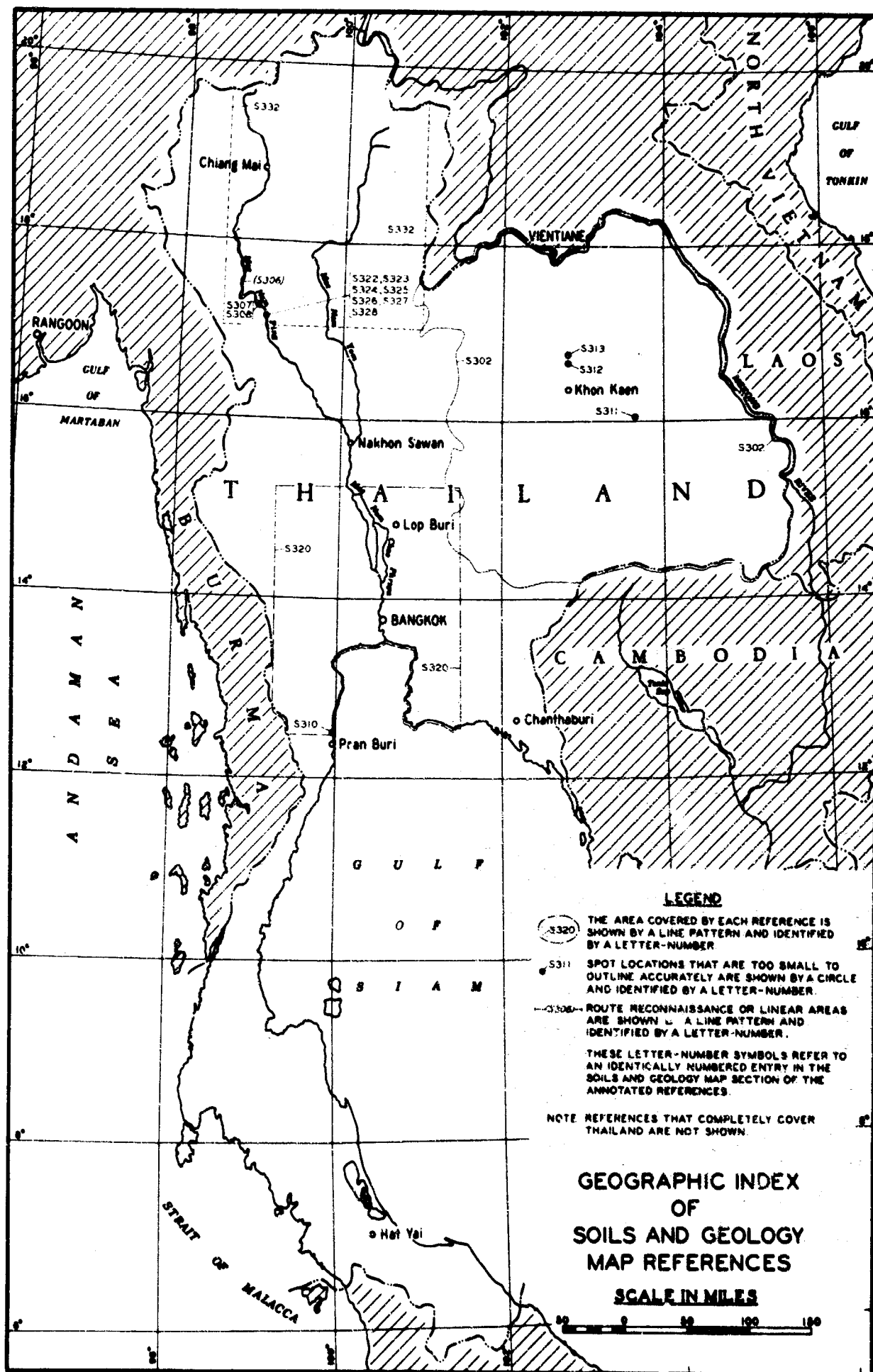


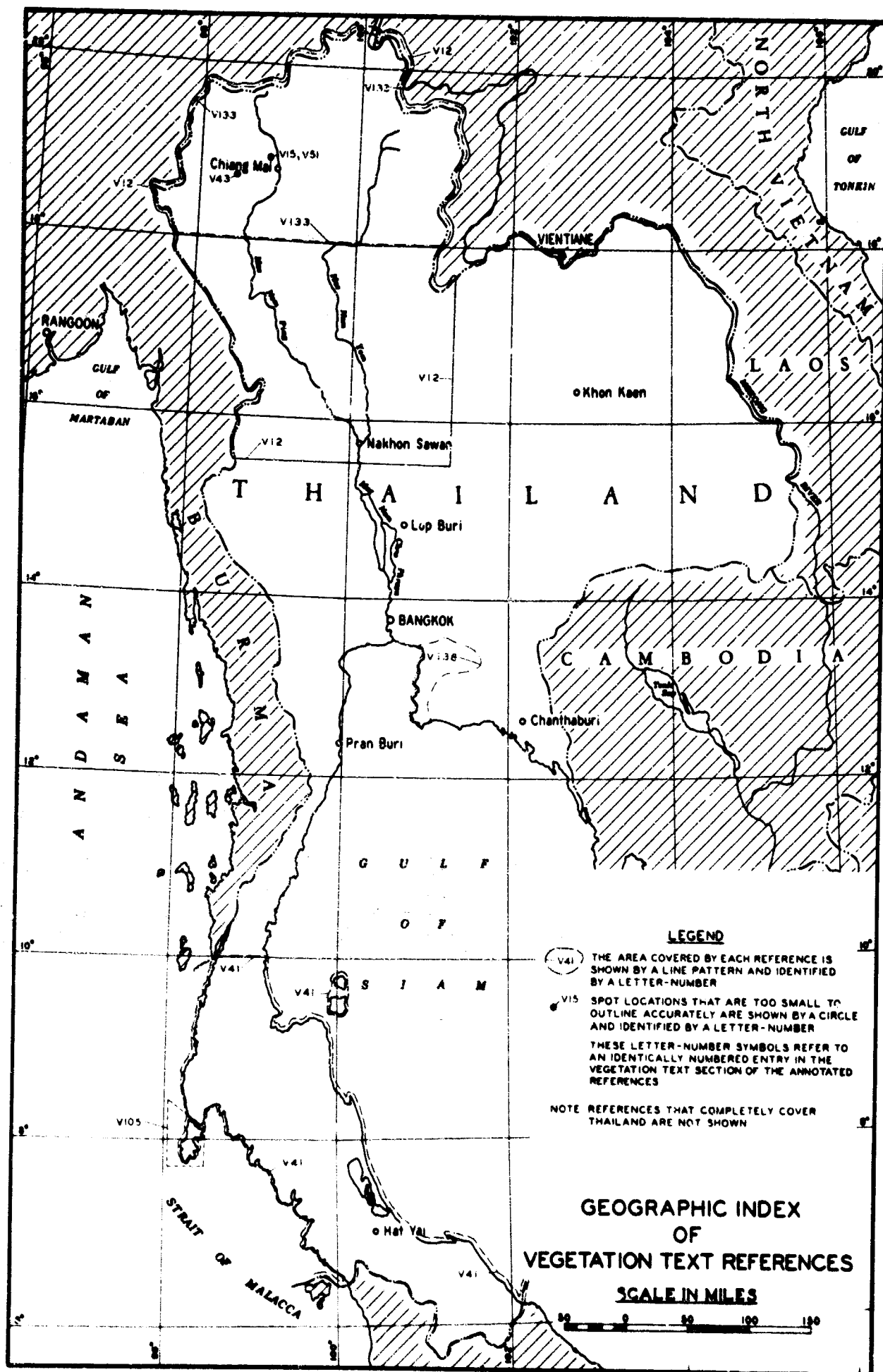




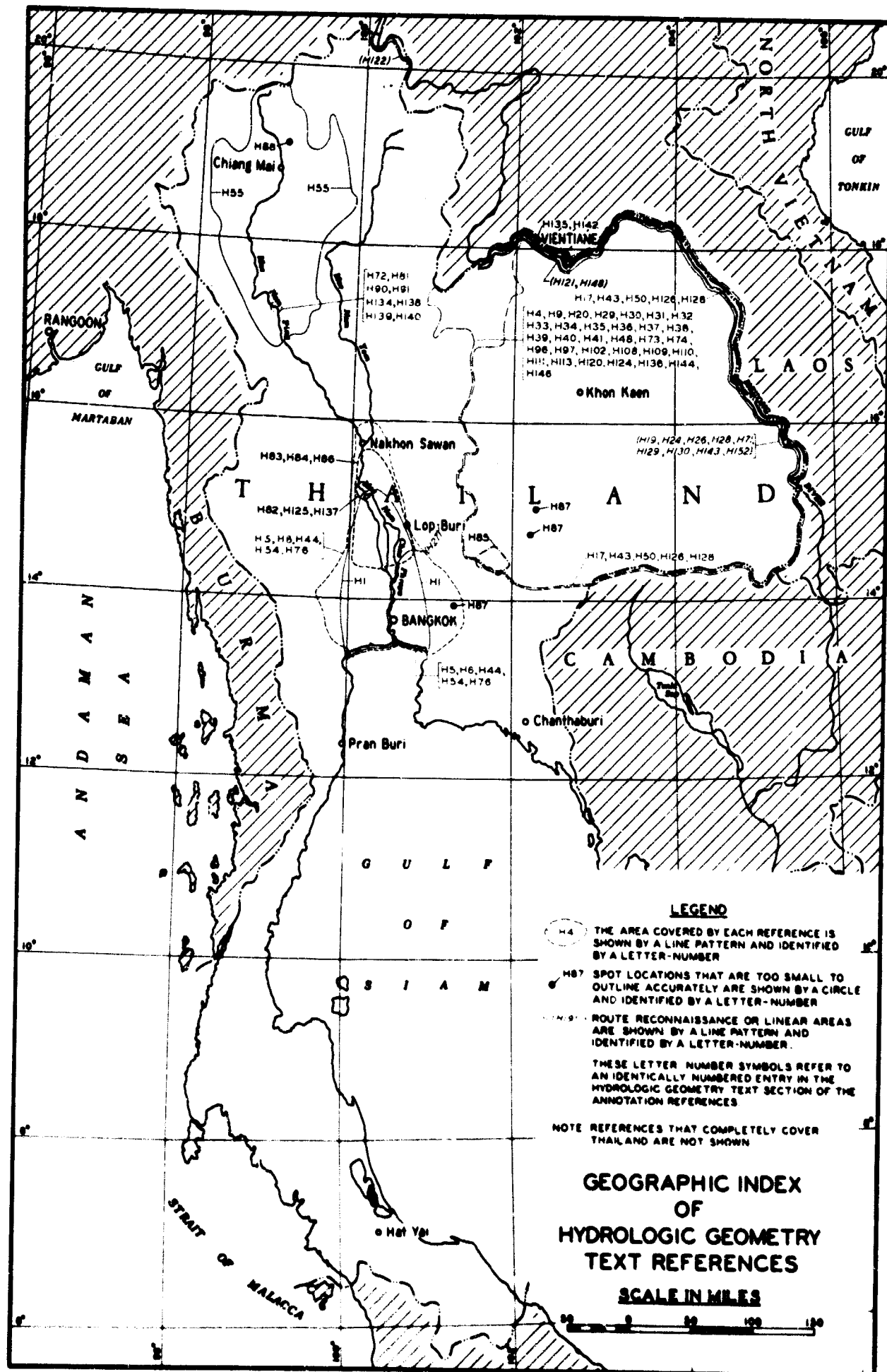




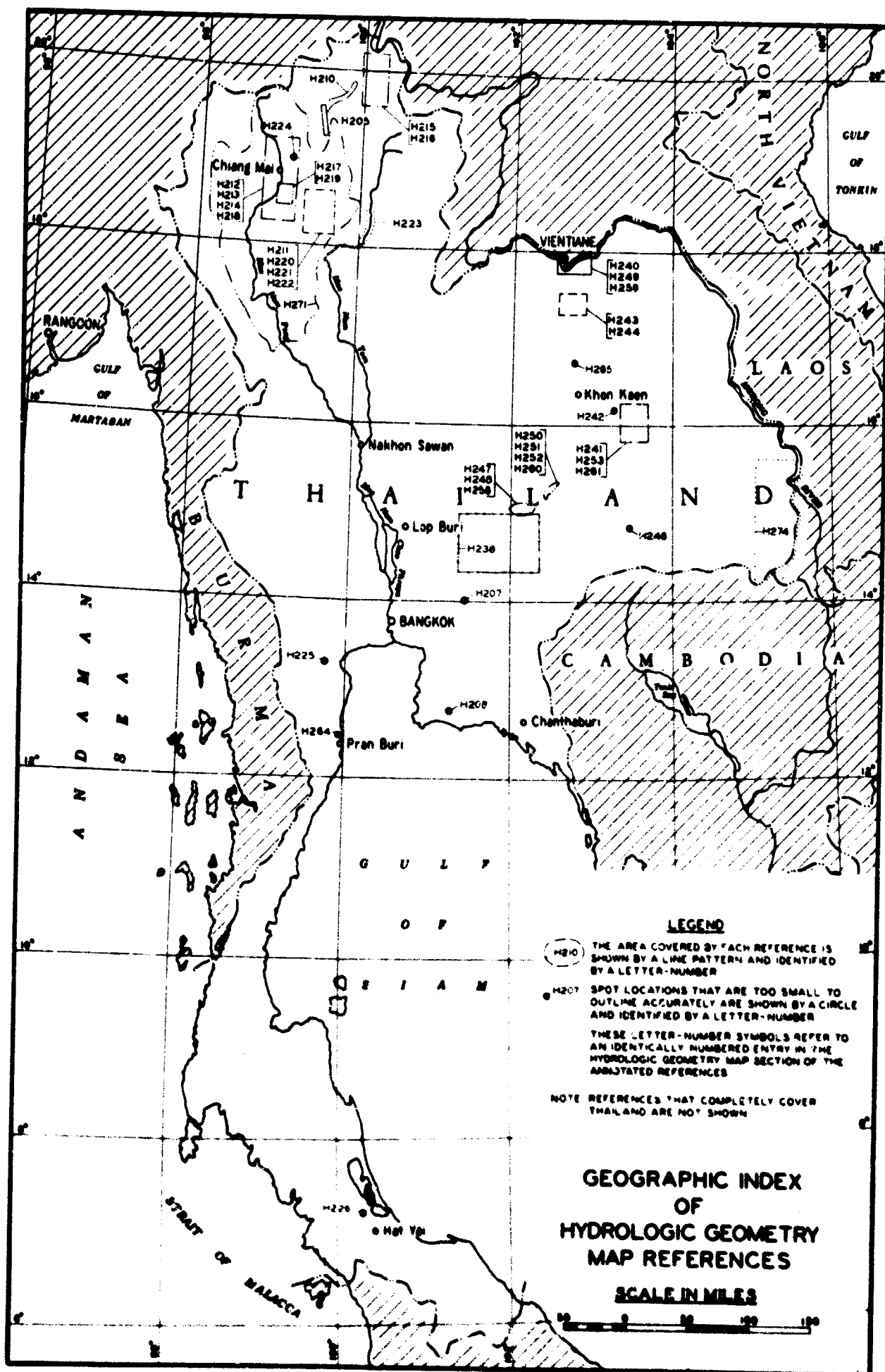












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